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13 MAY 1986

Worldwide Report

TELECOMMUNICATIONS POLICY, RESEARCH, AND DEVELOPMENT

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WORLDWIDE REPORT

TELECOMMUNICATIONS POLICY, RESEARCH AND DEVELOPMENT

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PEOPLE'S REPUBLIC OF CHINA

SIMULATION MODELS OF TELEPHONE SWITCHING SYSTEM

Beijing TONGXIN XUEBAO [JOURNAL OF CHINA INSTITUTE OF COMMUNICATIONS] in Chinese Vol 6 No 2, Apr 85 pp 89-92

[Article by Han Huijun [7281 1979 0689], Liu Yunhe [0491 0061 7729], and Yang Zhengwei [2799 1767 0251]: "A Method for Constructing the Simulation Models of a Telephone Switching System"]

[Text] Abstract: A basic method is presented for establishing simulation models of a telephone switching system by using the GPSS-F simulation language. A rotary line switching system is selected as an example. The results are consistent with those in practice. It is shown that this can be used widely.

As China's telephone communications networks have developed quickly, it is obviously completely necessary to study a computer simulation model that establishes a telephone switching system or telephone network, because it can quickly analyze and compare programs, and consequently can effectively use funds and equipment.

In recent years, there have been several simulation program packages abroad especially for simulation of telephone networks, and in this country, too, there are some units that have done work in this field, which is a necessary trend in the development of telephone communications service in this country.

The simulation model established in this paper is for an exchange of primarily rotary systems, and which has an installed capacity of 14,000 circuits (5,000 of which are actually open). Under this exchange are two branch exchanges, A and B, where the capacity of A is 10,000 circuits and that of B, 4,000. The goal of simulating this telephone exchange system is to find the rate of call connections, the rate of use for all equipment, and average waiting time, all under conditions of various volumes of subscriber telephone service. The simulation model uses the GPSS-F simulation language (which simulation language we have ported to the Burroughs 1955 computer). For functions and structure of this language, see documents [1] and [3]. Below, we have explained the set-up method of this simulation model for each of the three problems.

I. The Basic Composition of Telephone Switching Systems

The main components of the telephone switching system are: the cord circuit, the register, and 1st, 2d, and 3d group selectors, as well as the final selector (see figure 1), and as one can see from the diagram, this is actually a single line, single service queue system that transverses multiple levels of selection.

A queued system is largely made up of the three parts that are the input system, queuing rules, and the service process, and we discuss these components below.

A. The Source of the Call and Probability of Distribution

Under conditions of actual telephone service volumes, we can divide call sources into five kinds. Source 1 is used to simulate initial calls; source 2 simulates the incoming calls; while calls at this local exchange are divided into sources 3, 4, and 5 according to their degree of activity. The probability distributions for the intervals between times of arrival are all negative indexes, differing only by average values (see table one).

In addition, because this simulation model is based on calls within the area of the local exchange, the probability of calls within the exchange and of calls outside the exchange must be determined according to actual call conditions. For this simulation model that has been chosen as 0.73 and 0.27, respectively.

B. Queuing Rules

source number	2	3	4	5
average value for arrival time interval (in 1/100 seconds)	19.388	85.125	11.95	350.813

Call handling is generally in accordance with the principle of "first in, first out." If the equipment is not available, then the call must wait, and the longer the waiting time, then the longer the delays in putting through the call. The general rule is that if the delay exceeds 30 seconds, the call is considered lost. This model is primarily to study the loss created by the subscriber being busy, and has not yet taken into account loss created by equipment being busy.

C. The Probability Distribution of Call Times

Calling times also use a negative index for probability distribution and are based on actual conditions, the average values for which range from 80 to 100 seconds.

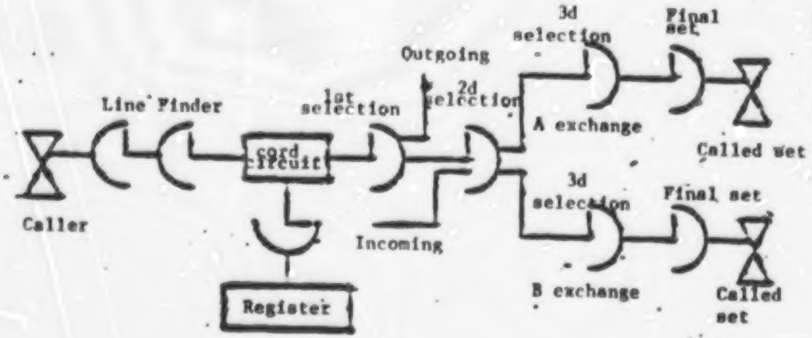
3d
selection
Final
set
Outgoing
Line Finder
1st
selection
2d
selection
A exchange
Called set
cord
circuit
Caller
3d
selection
Final set
Incoming
B exchange
Register
Called
set

Figure 1 Basic Composition of Switching System

where: Cord circuits, 500 circuits; registers, 100 circuits
second selector: Incoming, 500 circuits, local exchange, 500 circuits
third selector: Exchange A has 5 levels, each level having 135, 135, 135, 150, and 135 circuits, respectively. Exchange B has 2 levels, each level having 135 and 150 circuits, respectively.
final set: Exchange A, 50 levels, each level 16 circuits; exchange B, 20 levels, each level 16 circuits.

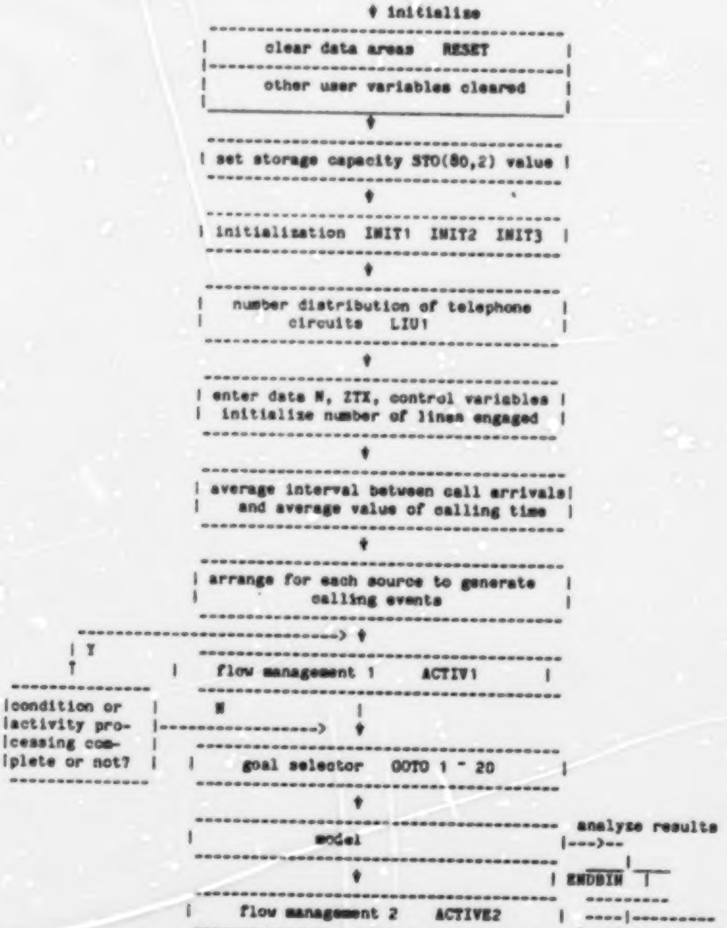
initialize
clear data areas   RESET
other user variables cleared
set storage capacity STO(80,2) value
initialization INIT1 INIT2 INIT3
number distribution of telephone circuits LIU1
enter data N, ZTX, control variables
initialize number of lines engaged
average interval between call arrivals and average value of calling time
arrange for each source to generate calling events
Y
flow management 1   ACTIV1
condition or activity processing complete or not?
N
goal selector   GOTO 1 - 20
model
analyze results
ENDBIN
flow management 2   ACTIVE2
print results

Figure 2 Overall Diagram of Simulation Model

Table of Simulation Results

Connection Rate = 0.85253453
Average waiting time before each call is connected (after dialing) = 44.35586
hundreths of a second

		equipment utilization rate	average waiting time
1	(cord circuit)	.28945761	.00000000
2	(register)	.22595363	.00000000
3	(2nd select. [local exchange])	.28945761	.00000000
4	(3d sel.[exch. A] each position)	.73818594	4.37036991
5	(same)	.70195645	.22975516
6	(same)	.38466852	.00000000
7	(same)	.00000000	.00000000
8	(same)	.00000000	.00000000
9	(3d sel [exch. B] each position)	.86546480	47.92132568
10	(same)	.00000000	.00000000
11	final set (exch. A) each pos.	.67071813	64.36923217
12	(same)	.70653182	192.00000000
13	(same)	.47260278	.00000000
14	(same)	.59255796	.50000000
15	(same)	.81811100	113.65625000
16	(same)	.42795747	.00000000
17	(same)	.59482705	.00000000
18	(same)	.50609630	.00000000
19	(same)	.69703829	78.11428833
20	(same)	.51539617	.00000000
21	(same)	.49642819	.00000000
22	(same)	.56662523	39.38461303
23	(same)	.64484280	54.40322875
24	(same)	.64331662	69.22222900
25	(same)	.41729956	.00000000
26	(same)	.32335585	.00000000
27	(same)	.48402911	.00000000
28	(same)	.73568940	128.24137878
29	(same)	.74331033	123.56944274
30	(same)	.67614603	.00000000
31	(same)	.37897199	.00000000
32	(same)	.36907821	.00000000
33	(same)	.21964824	.00000000
34	(same)	[illegible]5565158	.00000000
35	(same)	.34117865	.00000000
36	(same)	.36377376	.00000000
37	(same)	.33758133	.00000000
38	(same)	.32456278	.00000000
39	(same)	.31688278	.00000000
40	(same)	.32831126	.00000000
41	(not open)		
-			
62	(not open)		
63	(final set [exch. B] each pos.	.63476175	43.25862121
64	(same)	.76423609	44.01538085
65	(same)	.55598646	11.50877189
66	(same)	.61742645	60.75509643
67	(same)	.78113931	239.34548022
68	(same)	.72822439	42.22950744
69	(same)	.67507112	.00000000
70	(same)	.59938013	.00000000
71	(not open)		
-			
80	(not open)		
81	(2nd set [incoming])	.55458074	.00000000

II. The Computer Simulation Model

A. Simulation of Call Flow Over a Given Distribution

If one wants to know the calls according to changes in the negative index probability distribution, that can be done by calling tne two modules "ERLANG" and "GENERA."

B. Simulation Initialization

When the simulation begins, it is generally necessary to reset each initial state to reduce the time in which to reach statistical equilibrium; that is, prepare a certain value for the number of calls to handle. For the timing of calls, one may use uniform distribution random numbers for the simulation, where we used random numbers of uniform distribution from 0.2 to 120 seconds to initialize calling times. Because some calls will be near completion and others will have just begun, we have used uniform random numbers within a broad range.

Also, to simulate the actual conditions of telephony, we also had to number the subscriber telephone lines. There are 500 lines in source 3, 405 lines in source 4, and 450 lines in source 5. This function is performed by subroutine LIU1, in which the number of occupied lines in exchanges A and B are 0.65 and 0.35, respectively.

C. The Handling of Call Flows and Data Recording

This portion include three processes: one, finding the subscriber line, i.e., selecting the numbers calling and being called; two, selecting the line, i.e., searching for lines with available equipment; three, the process of putting through the call.

1. Finding the Subscriber Line

After each originating call has arrived, we first use a uniform distribution random number to select an originating caller number, and at the same time determine whether this subscriber line is occupied. If it is in use, then another selection must be made. Then, based on the given probability, we determine the called line of either exchange A or B, and determine from which source it comes.

2. Selecting the Line

We use memory location STO(I,2) to indicate cord circuit and the various levels of register group selector. Before entering any storage location, it must first be determined whether there is an available storage unit, which is done through the two modules, "GATE2" and the flow management 2 [sic] "ACTIV2."

3. The Process of Connecting the Call

Calling times vary according to the negative index probability distribution, the average value for calling time being 80 seconds. The call completion process is accomplished by the "ADVANC" module, and the number of calls in a calling state and other statistical data are recorded by the two subroutines, LIU3 and LIU4.

Figure 2 is an overall diagram of the computer simulation program.

III. The Results of Simulation

Data necessary for input while this system simulation is running are: average values for simulation time, initial values, equipment capacity, intervals between call arrival times, and calling times. Because of this, if we want to study the effects on this simulation when conditions change, all we need to do is to change the relevant data.

Simulation results are primarily in the following areas: connection rate; average waiting time for calls; rate of equipment use; average waiting time for calls before all equipment.

For results of our simulation, see appendix.

We have simulated many different times, and what is listed in the appendix are the results in each category from simulations of 5 minutes.

From the point of view of equipment utilization, it is low overall, with some values being zero; but the completion rate of 0.85 is higher than actual values. We explain the reasons below:

1. The capacity of the equipment on this switching system is based on 10,000 installed telephones (installed capacity of 14,000), and in current simulations we reduce the number of subscriber lines by one-half, so the utilization rate is greatly decreased, to the extent that some levels are not even used.

2. We have used a calling time of 80 seconds, which should actually be somewhat longer (generally about 120 seconds), so this increases the rate of completion. Because extending the calling time will cause an increase in the number of calls within the system and the fact that we have been limited by the array unit size of the type of computer we are using, we have thus chosen a smaller value for the calling times.

3. We have undertaken simulation at 1, 3, and 5 minute simulation times, and it can be seen from the results that the equipment utilization rate continues to increase as simulation times increase, while the completion rate constantly decreases. This is because the simulation process is actually a large volume sampling and testing process. As the sampling times increase, the average values will generally approach true values. What we have chosen is a method of single, long-term simulation operations, but because of limitations in the type of computer we are using, we have not yet reached a state of complete

stability in the random process. But from the trends in changes, the rules can already be seen.

By applying the simulation model modeling method provided in this paper, various schemes can be analyzed and compared, which should have great practical significance for designers and operating personnel.

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1. B. Schmidt, GPSS-FORTRAN, John Wiley & Sons, New York, 1980.

2. Geoffrey Gordon, System Simulation, Prentice-Hall, Inc., Englewood Cliffs, New Jersey, 1978, pp. 197-238.

3. Han Huijun, Xie Jianying [6200 0494 5391], and Chen Yinglin [7115 2019 7792], "Applications of the GPSS-F Simulation Language in Simulations of Discrete Random Systems," INFORMATION AND CONTROLS in Chinese 1983.4 (manuscript received 26 September 1983).

12586
CSO: 5500/4153

AUTOMATION, COMPUTER SECTOR PLAN APPROVED

PY181758 Brasilia Radio Nacional da Amazonia Network in Portuguese 1000 GMT 18 Apr 86

[Text] Brazil will not give in to pressure to change or reorient its computer sector policy. This statement was made by President Jose Sarney on 17 April, when he approved the national plan for the automation and computer sector. Sarney said that both as a citizen and as a politician, he will continue to support the plan.

[Begin Sarney recording] On this important occasion, I will reiterate something I have already stated before: I feel personally committed to the national computer sector policy. This plan has set the operational guidelines for the computer sector law. I participated in designing this policy and, now that I am the president, I cannot give in to pressures to change it or reorient it along a line that is contrary to Brazilian interests. [end recording]

The president added that the computer field is essential for all sectors.

/9738
CSO: 5500/2038

SENATE LEADER DEFENDS INFORMATICS LAW

PY242344 Brasilia Domestic Service in Portuguese 2200 GMT 23 Apr 86

[Text] Senate First Secretary Eneas Farias has defended the Brazilian Informatics Law and condemned continuous U.S. pressure against it. Senator Eneas Farias was referring to a letter sent to Itamaraty by U.S. Secretary of State George Shultz in which the U.S. Government asked Brazil to adopt a more flexible policy in the computer sector. In the opinion of Eneas Farias, it is useless to try to pressure Brazil on that subject, because both the government and the individual politicians are determined to defend the country's sovereignty.

The senator from Parana State recalled that President Jose Sarney has already stated that the informatics Law will not be changed. After congratulating the president for taking that position, Eneas Farias said that technology is the only means for Brazil to attain international competitiveness without enslaving its people and without alienating its resources. He added that in defending the Informatics Law, the objective is to protect Brazilian industry against U.S. attacks, and expressed his fear that the pressure now exerted against the computer sector might later be exerted against other sectors of the economy.

/12858
CSO: 5500/2040

BRAZIL

USSR TO SIGN PURCHASE CONTRACT FOR OPTICAL FIBER CABLE

Sao Paulo O ESTADO DE SAO PAULO in Portuguese 1 Apr 86 p 34

[Text] An agreement should be signed soon between the Brazilian and Soviet governments for the sale of 1,500 kilometers of optical fiber cable, over a 4-year period; this will mark the return of TELEBRAS [Brazilian Telecommunications, Inc.] to the Soviet Union to participate in the Fourth International Communications Fair, on 27 May. The contract, which is in the process of negotiation, is the fruit of the First Individual Brazilian Exhibition, held in the USSR in October, when the latest advances were demonstrated in telecommunications and computer technology.

The contract provides for the immediate sale--by ABC X-Tal, a Brazilian firm which manufactures optical fibers--of 56 kilometers of underwater fiber optic cable to the Soviet Government, with the first 400-kilometer lot to be delivered during the next 2 years. The agreement was negotiated by technicians of the East European Commission of the Foreign Affairs Ministry and also involves other socialist countries which took part in the industrial fair in 1985, all of which are members of COMECON [CEMA], the organism responsible for negotiations between the socialist bloc and members of the EEC and Western nations.

According to TELEBRAS technicians, the countries are most interested in the "holding company" which directs 29 Brazilian telecommunications firms, providing all the states with optical fibers; micrometric fibers as fine as a hair, they are strong enough to substitute for the copper wire, hundreds of times thicker, used in telephone cables, and provide greater reliability and better quality of transmission.

According to the TELEBRAS technicians involved with the International Communications Fair, Brazil's participation in the exposition which the Soviet Government is promoting could produce much better results than have been achieved to date. "This event carries greater commercial weight," one of them explained, recalling that the first exposition, last October, served to "open the door" to this great market which is emerging in Eastern Europe.

The telecommunications and computer sectors should grab a good part of the $2 billion which the Soviet Union tends to invest this year, as part of its 5-year plan (a kind of national development plan), in the automation of its offices, by which the Soviet Government aims to speed up the wheels of the Soviet bureaucracy. To this end, in addition to the computers which the Brazilian manufacturers will export, the Soviet Union also needs to acquire related equipment to set up the public data communications network.

6362
CSO: 3342/90

JAMAICA

TELECOMMUNICATIONS ADVANCES, PROSPECTS DISCUSSED

Kingston THE DAILY GLEANER in English 7 Apr 86 pp 1, 3

[Text]

Deputy Prime Minister Hugh Shearer has predicted that this island stands to gain substantial economic benefits from the "very significant amount of interest being shown in Jamaica as a location for off-shore data-handling."

He suggested that the country should "put ourselves in a position to take advantage of the opportunity."

Addressing the 15th anniversary dinner and long service awards presentation of Jamintel, at the Oceana Hotel on Saturday night, Mr. Shearer said:

"There is already a very significant amount of interest being shown in Jamaica as a location for off-shore data-handling which is made technically possible through the linkage of computers and satellite transmission, and which is viable because of our closeness to North America." He then went on to declare: "All the indications are that the economic benefits to us could be substantial: we must therefore put ourselves in a position to take advantage of the opportunity."

Mr. Shearer said that the potential for new employment, new export earnings and for new business was too great to be ignored.

He praised the company for having fulfilled its obligations well over the 15 years of its existence and for having steadily expanded its facilities so as to maintain the services for which it was given responsibility as well as for showing a readiness to adapt to new technology.

The Deputy Prime Minister said that it was important for people to recognize the importance of the impact on the society of the growth in telecommunication and the accompanying vast mobility in information and ideas.

"I believe that it is important for us to recognize the impact that this must have on the society...it sets a faster pace that we must keep up with; it exposes us to new information and new ideas at a rapid rate and it is inevitable that this will affect attitudes and reactions to events."

"What I suggest is important to recognise is that this increasing mobility and rapidity of information and ideas will inevitably affect attitudes all over the world...it will affect the attitudes of everyone whether or not he has direct access to a telex, facsimile machine or a dish..."

Giving a 15 year review, Jamintel's General Manager, Mr. Trevor Minott, said that the financial performance of the company has been commendable: other than the capital cost of the planned developments at the start of the company's life which was covered by loan funds, all developments undertaken since then have been financed from internally generated funds.

"We have never been a charge on the public purse," Mr. Minott said.

Revenue in 1971/72 was just over four million dollars with a profit after tax of J$156,000 and now at the end of the company's 15th year the revenue was an estimated J$110 million with profit after tax of J$28 million.

He said that this was the kind of performance that had enabled the company to pay annual dividends and finance the capital developement programme every year from its own resources.

He attributed the increase in revenues over the years to growth stimulated by high quality circuits and service. The records show that Cablegram rates have not been increased since 1969 and International telephone rates were increased twice in 1979 and 1984 and telex rates once in 1979.

During 1973 an Automatic Telex Exchange designed by the Company's technical staff was brought into operation and by July of this year that exchange will be replaced with a state-of-the-art International Telex Exchange at the cost of J$13 million.

Today, the company provides 450 international telephone circuits 104 international telex circuit and over 60 private leased circuits of all types to link Jamaica with the rest of the world.

The Memorandum of Agreement between the Government and Cable and Wireless called for the repayment by Government to C&W of a percentage of its dividend to purchase the Government's 51% shareholding in the Company. Because of the company's ability to pay its shareholders a dividend each year the full amount has now been paid, he said.

Fifteen members of staff received awards for ten and 20 years' service.

Jamintel's Chairman, the Hon. Horace Barber; Sir Fred Phillips, Chief Legal Adviser (Caribbean Area), Cable and Wireless PLC; and Mr. Douglas Buck, member of the Board of Directors, Jamintel, were honoured for their years of service on the Board.

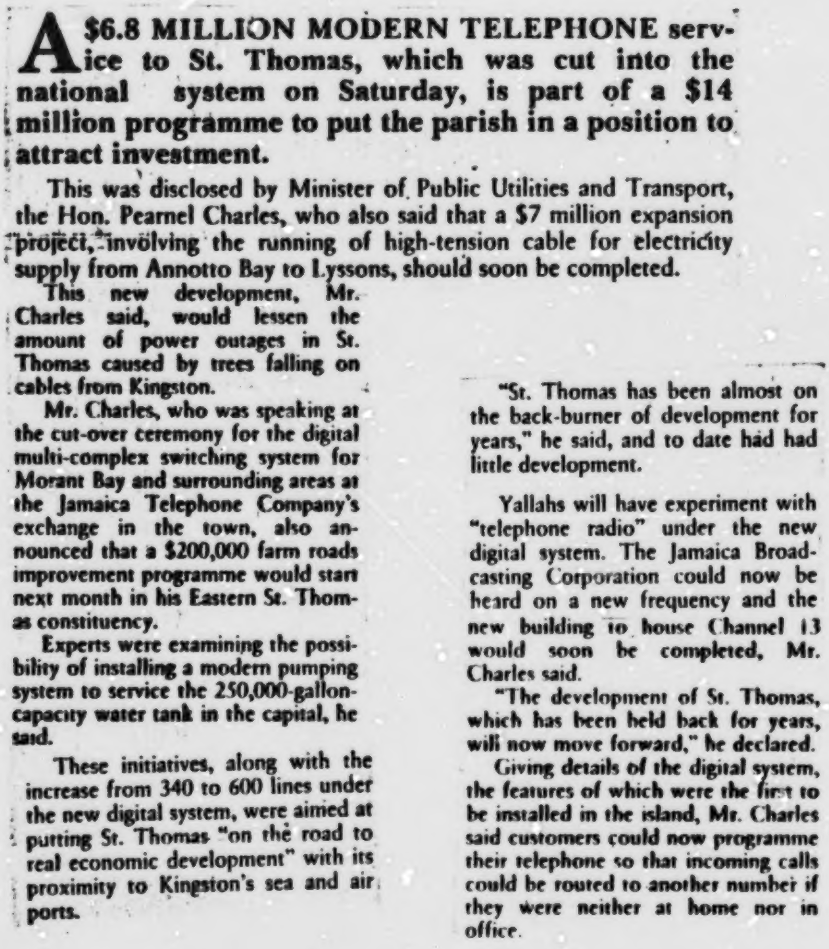
/9317
CSO: 5540/060

JAMAICA

DIGITAL MULTIPLEX SYSTEM SPURS INVESTMENT HOPES

Kingston THE DAILY GLEANER in English 7 Apr 86 pp 1, 3

[Text]



A $6.8 MILLION MODERN TELEPHONE service to St. Thomas, which was cut into the national system on Saturday, is part of a $14 million programme to put the parish in a position to attract investment.

This was disclosed by Minister of Public Utilities and Transport, the Hon. Pearnel Charles, who also said that a $7 million expansion project, involving the running of high-tension cable for electricity supply from Annotto Bay to Lyssons, should soon be completed.

This new development, Mr. Charles said, would lessen the amount of power outages in St. Thomas caused by trees falling on cables from Kingston.

Mr. Charles, who was speaking at the cut-over ceremony for the digital multi-complex switching system for Morant Bay and surrounding areas at the Jamaica Telephone Company's exchange in the town, also announced that a $200,000 farm roads improvement programme would start next month in his Eastern St. Thomas constituency.

Experts were examining the possibility of installing a modern pumping system to service the 250,000-gallon-capacity water tank in the capital, he said.

These initiatives, along with the increase from 340 to 600 lines under the new digital system, were aimed at putting St. Thomas "on the road to real economic development" with its proximity to Kingston's sea and air ports.

"St. Thomas has been almost on the back-burner of development for years," he said, and to date had had little development.

Yallahs will have experiment with "telephone radio" under the new digital system. The Jamaica Broadcasting Corporation could now be heard on a new frequency and the new building to house Channel 13 would soon be completed, Mr. Charles said.

"The development of St. Thomas, which has been held back for years, will now move forward," he declared.

Giving details of the digital system, the features of which were the first to be installed in the island, Mr. Charles said customers could now programme their telephone so that incoming calls could be routed to another number if they were neither at home nor in office.

"If a customer should call your number while the line is engaged, a short burst of music will be transmitted to you, indicating that a call is waiting. You can then place the first party on 'hold' and speak to the second party or alternate between both parties," he said.

The telephone company can also have a recorded announcement connected to a line to remind that customer that that there is an outstanding bill and that the line has been disconnected for non-payment.

The new system, supplied by Northern Telecom of Canada, would be maintained by remote control from Carlton Exchange in Kingston. However, Mr. Charles gave the assurance that no staff would be made redundant as the company would absorb their skills elsewhere.

Such areas as Bath, Style Hut, Airy Castle, Stokes Hall, Duckenfield, Hampton Court and Manchioneal, among others, will benefit from the cut-over.

Mr. Charles appealed to residents to protect the company's equipment against vandalism as it was costing the country huge sums to instal the new systems.

He made an inaugural call with the use of 'touch' dialling to New York at the home of retired City College, Professor, Ms. Martha Farmer. She told the audience, over the amplified telephone, that Mr. Charles was a "most outstanding" student at City College.

"You will certainly become Prime Minister of Jamaica and when you do I'll be there to see you inaugurated. You're a most outstanding statesman," Professor Farmer said.

/9317
CSO: 5540/060

SATELLITES SAID TO FUNCTION WELL, PLANS REVEALED

Bombay THE TIMES OF INDIA in English 7 Apr 86 p 12

[Text] Bangalore, April 6--The fabrication of INSAT-1C (Indian National Satellite 1-C) is nearing completion and the "acceptance test" for the satellite would be conducted during this month. The satellite is to be launched in September this year.

The launching of the satellite by the Space Transportation System (STS) of NASA of the U.S. was originally scheduled for the mid-1986 but it had to be postponed following the recent setback in the U.S. space shuttle.

According to the space department, the work on INSAT-1C, an on-orbit spare for the INSAT-1B now in space, was progressing satisfactorily and the acceptance test would be completed well ahead of the spacecraft availability requirement for its launch.

An Indian payload specialist would fly on board the shuttle carrying the INSAT-1C. Two ISRO scientists have already been selected and both the scientists have passed the NASA medical tests. The space department has also exercised its option to fly another payload specialist on STS carrying the next satellite, INSAT-1D.

INSAT-ID

The space department ordered the INSAT-1D with the Ford Aerospace and Communications Corporation of USA, the suppliers of the earlier INSAT-1 spacecraft, following the failure of the INSAT-1A. The work on INSAT-1D commenced in October last year and was progressing as scheduled.

Though basically the satellite would be similar to its predecessors of the INSAT series, INSAT-1D would have certain improved features like larger battery capacity to support a larger payload operation. The spacecraft is expected to be ready in the mid-1988.

Meanwhile, INSAT-1B has completed 31 months in orbit. Excepting for a brief loss of earth-lock in August 1984 leading to disruption of its services, the satellite has functioned well in all the three segments of telecommunications, meteorology and television and radio networking.

The department of telecommunications has linked 29 fixed and four transportable terminals and two fixed terminals of the Oil and Natural Gas Commission (ONGC) with the INSAT-1B.

In the field of meteorology, the satellite has been commanded to give 9,500 images from its inception. The initial set of 100 Disaster Warning (DWS) receivers have been installed in selected spots in coastal areas.

The installation of 100 data collection platforms for collection and transmission of meteorological data has also been completed. More than 473 television stations have been linked to the satellite apart from 93 air stations.

/9317
CSO: 5550/0107

LOK SABHA NOTES PROBLEMS OF TELECOM NETWORK

Madras THE HINDU in English 2 Apr 86 p 6

[Text] New Delhi, April 1--Have experts from abroad cautioned India that its telecommunication network is "fast approaching a stage when it will totally collapse because of sheer overload? This question was raised by Mr Prakash V. Patil in the Lok Sabha today.

In reply, the Communications Minister, Mr Ram Niwas Mirdha, said: "Telecommunication services in the country are under severe constraints of scarce resources and overloading of exchanges, due to large waiting lists."

He said this problem was bieng "duly" taken care of by regular assessment of traffic load at various stages and by adopting "corrective" measures. As such the telecommunication network "will not collapse due to this factor."

Out of connection

In a written reply to Mr Syed Shahabuddin, the Minister said that MPs among themselves had made 1900 recommendations for telephone connection on out-of-turn priority basis in 1985-86 (up to March 27, 1986). But, the Department could give only 157 connections.

A break-up of the figure shows that of the 157 connections, the Union Territory of Delhi accounted for 62, followed by U.P. 15, Maharashtra 12, and Andhra Pradesh 10. Only one connection each was given in West Bengal, Orissa and Kerala.

No management experts

Mr Mirdha said there was no proposal to put management experts and other professionals in command of the proposed corporations for Delhi and Bombay telephones separately and giving them a free hand, including in the staff employment.

In written replies, he said no initial changes in the management structure could be considered for some time. It had been decided to treat the present staff of Delhi telephone district as on deputation to the Metropolitan Telephone Corporation without any deputation allowance till the corporation finalises its terms and conditions for employment. The staff would continue to belong to the Department till absorbed in the corporation.

Mobile exchanges

The Minister said the Government has imported 25 mobile telephone exchanges with a total capacity of 60,000 lines from the Netherlands.

Of these, 19 have been commissioned in Andhra Pradesh, Assam, Bihar, Gujarat, Haryana, Karnataka, Kerala, Manipur, Goa, Punjab, Rajasthan and Tamil Nadu. Six exchanges are being installed.--UNI and PTI

/9317
CSO: 5550/0106

INDIA

SCIENTISTS QUESTION TELECOM TECHNOLOGY TRANSFER

Indigenous Capabilities

New Delhi PATRIOT in English 29 Mar 86 p1

[Article by M.K. Kaul]

[Text]

Contracting of three multinationals of France, Japan and Belgium by the Indian Government for the 'telecommunication technology transfer' has disturbed the Indian scientists who have gained indigenously a major breakthrough in the field.

On Monday next, they say, India's first-ever indigenously designed and developed 'rural telephone exchange' will be put on field trial in a remote village in Karnataka, adding: "there cannot be any better proof of Indian scientists' capabilities".

What has irked them most is the way the Indian bureaucracy has tried and succeeded in frustrating the country's efforts towards self-reliance which has been the cherished goal of the Indian leaders right from the dawn of independence.

Sometime last year, it is said, the Department of Science and Technology, on the demand from the Communications Ministry for "more digital switchgears", invited Indian manufacturers for awarding of licences for the manufacture of digital switches in the country.

It is said around 100 manufacturers put in their applications. But licence was granted to just 18 of them, for, what they were reportedly told, "want of limited demand".

Within a couple of months, to the surprise of the Department of Science and Technology contracted Jumounp Scnider of France, Hoki of Japan and GDE of Belgium for "technology transfer" for the development of 20,000 digital switches.

It happened at a time when the country's own scientists had been able to develop indigenously telecommunications technology which suited the country most. And what is ironic, it was the Centre for Development of Telematics or C-DOT, as it is commonly known, jointly owned by the Science and Technology Department and Communication Department, that is behind this major breakthrough in the field.

The C-DOT, which is also referred as 'saga of Rs 36 crore in 36 months', is the band of "young dedicated scientists" who were 18 months ago assigned the job of developing advance telecommunications technology within 36 months with a sum of Rs 36 crore and within the country's industrial infrastructure.

Taking up the challenge against all odds and ridicule from the vested interests in the country and abroad, the C-DOT, in the words of Communications Minister Ram Niwas Mirdha, "has lived up to its expectations" (what he told a press conference last year).

Besides this, the C-DOT, found out that it could do with much less amount than the allotted Rs 36 crore. In its mid-period appraisal of its achievements in February last, the C-DOT came to conclusion that

it could achieve its objective with Rs 25 crore only, notwithstanding the inflation.

It also assessed that of its Rs 20 crore of foreign exchange, it could do with half of this amount.

The main objective before the C-DOT has been to build a family of digital switches in tune with the Indian network and the environmental conditions and as per the prevailing production conditions of the country.

Though the C-DOT's main thrust has been towards the development of bigger 4,000-line digital switches, which can suit the towns of medium proportions and big rural inhabitations, it has, as one of the senior functionaries of the C-DOT explained, produced smaller digital switches as a "byproduct" for the rural areas.

And the one that is to be put on field trial at Kittur village in Karnataka and to be followed by three more at Rajasthan, Haryana and West Bengal will meet the needs of the rural India where conditions are rugged and sophisticated materials of the advanced countries can not do. The foreign experts too have acknowledged that the C-DOT switches meet the needs of the Indian condition best.

It is modular and can be expanded piecemeal. The basic switch unit, though of 512-line cabinet composed of four 128-line switching module, can be converted into a big unit of 4,000 or so line exchange through interconnecting units. But their similarity all over makes them suitable for almost all fields of telecommunications.

The C-DOT, however, does not keep its technology "close to its breast". It transfers its technology to the Indian manufacturers and also buys their products "to expand their market".

On Thursday itself, some 50 entrepreneurs turned up at its "technology disbursement" programme where it signed 40 of them after they made the initial payment of Rs 1.4 lakh for the technology transfer.

Indigenous Technology Cost-Effective

New Delhi PATRIOT in English 30 Mar 86 p 1

[Text]

The Centre for Development of Telematics, or C-DOT, has finally shown the way — that there is a demand for indigenous technology in the Indian market provided over-enthusiastic bureaucrats do not become the impediments.

The C-DOT technology, which is 100 per cent Indian and which has been developed within 18 months, is cost effective compared to the foreign technology which a section of the bureaucracy cherishes.

The cost per line of the C-DOT technology is estimated to be at least 25 per cent cheaper than that of the lowest imported technology.

This is a major consideration that is said to have weighed with Indian public sector and private sector enterprises which have opted for the C-DOT tech for the manufacture of PBX technology. And this at a time when the country is already saddled with three imported technologies that the Department of Electronics contracted in the last year for Indian collaborators.

On Thursday last, 36 manufacturers, among whom are the leading lights like the Tatas, Birlas and Indian Telephone Industries, contracted for C-DOT technology "in a single day affair".

There were no long-drawn negotiations and haggling or cut-backs. Interested parties were asked to make cheques for Rs 1.4 lakh in favour of C-DOT and all the legal formalities were sorted under the same roof within hours. By evening, all the "signed parties" left home with the agreements in their pockets.

"A unique experience, of course", remarked the assembled entrepreneurs and officials.

Initially, when C-DOT, which has been sired jointly by the Department of Telecommunications and the Department of Science and Technology, broached the subject of selling its technology to Indian manufacturers with the authorities in the Union Government, it was asked not to contract more than four or five licencees for it.

"We fought it . . . how could we be the selectors", the C-DOT officials argued. "We won", said Mr S G Pitroda, who is the genius behind C-DOT, at a press conference on Saturday in New Delhi.

The idea behind the "limited licence system" of the Government authorities is based on the "miscalculated" demand for telephones in the country, asserted Mr Pitroda. The Department of Telecommunications has estimated the demand for telephones to be around one lakh a year, while Mr Pitroda estimates it as five times higher.

And he has reason to believe that his estimates are far more realistic than those of the Department of the Telecommunications.

He said while he was in Ahmedabad at the Narmada Velley Fertiliser Corporation recently, he found to his greatest surprise, that there was no telecommunication link between the head-office and the units dotting the State.

The various units have to run a courier with dak and other messages from the head office to the units and vice versa. "Can you believe such a thing in 1986"? he asked, in utter disbelief.

The licence holders of the C-DOT technology, added another senior official of the organisation, would not have to go individually to the Government departments for clearance of licence for manufacturing. The C-DOT would be assisting them there too. It would also monitor the progress of its licences during the production period on the monthly basis.

"They can hire the services of the C-DOT technical staff, too", Mr Pitroda said.

/9317
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INDIA

BRIEFS

RURAL TELECOM EXPANSION--For the expansion and strengthening of rural telecommunications, the Government has liberalised the policy for opening of small capacity exchanges and long distance public telephone (LDPT). These facilities are being provided under this policy on a subsidised basis, reports PTI. Opening of exchanges and LDPTs would depend on fulfilling the criteria laid down under this policy, according to an official release. The plan allocations for this are met out of the lump sum grant provided to each telecommunication circle. However, about Rs 100 crore for the small capacity exchanges are provided. In the seventh Five-Year Plan approximately 1.80 lakh of lines and 9000 long distance public telephones are proposed to be provided, subject to availability of the demand and equipment. [Excerpt] [New Delhi PATRIOT in English 6 Apr 86 p 5] /9317

SATELLITE EARTH STATIONS--Port Blair, April 5 (PTI)--Three more satellite earth stations will be set up in the Andaman and Nicobar islands by 1986-87 in addition to the existing ones at Port Blair and Carnicobar, according to Mr Monoranjan Bhakta, MP. Mr Bhakta told reporters here today that he had received an information to this effect from Union Minister of State for Communication R.N. Mirdha. [Text] [New Delhi PATRIOT in English 6 Apr 86 p 5] /9317

CSO: 5550/0108

MALAWI

FRENCH COMPANY SECURES TELECOMMUNICATION, MICROWAVE CONTRACT

Paris AFRICAN DEFENCE JOURNAL in English Apr 86 p 35

[Text] • **Malawi chooses TRT to establish a major part of its microwave radio and rural telphony network.** The French company TRT has been commissioned by the Malawi post office for the turnkey provision of a significant part of the microwave radio links and many of the rural telephony links in isolated areas of the country.

The Malawi post office, Sofrecom and TRT have worked closely in defining the design and construction details for these links.

The orders received, amounting to 52 million francs, cover equipment for the southern part of the country around the towns of Tyolo and Blantyre, and for the northern part around Mzimba during a first phase, and between Mzu-Mzu, Karonga and Chitipa during a subsequent phase.

These networks represent 30 stations consisting of TRT's new-generation digital microwave radio system and its well-known IRT-1 500 rural telphony system. They include transmitter-receivers of the TRT NFH-7 500 and DRL-1 502 type which, associated with TRT's TMN-162 differential transcoder, make it possible to double the number of telephone channels transmitted. Most of the repeater stations are solar-powered.

TRT is also training Malawi post office personnel so that they can actively participate in the completion of the project. The networks of Thyolo (southern region) and Mzimba went into service in December 1985. Those of the northern region (phase 2) are to go into service by the end of 1986. The entire project will be operational early in 1987.

/12851
CSO: 5500/62

MANEUVERING IN EUROPEAN TELECOMMUNICATIONS

Milan L'ELETTRONICA in Italian No 23, Jan 86 pp 14, 15

[Article by Giuseppe Caravita: "Telecommunications: A European Supergroup"]

[Text] The greatest strategic plan in the history of European telecommunications is taking shape. Jetliners flying between Britain, France, and Italy are swarming with managers and engineers of this sector who engage in often feverish consultations and in analyses of proposals and counterproposals. Everybody knows the general terms of the issue. Britain, with its British Telecom-designed X system currently being produced by GEC and Plessey, as well as France with its E 10 and Italy with its UT range all face the same problem: too little market with respect to the development and design costs which currently outstrip the profit-making possibilities that a single national market provides.

There is no way out; there are no alternatives except to capture a substantial share of the U.S. market, in an "open" sector brought about by the U.S. deregulation. But, on the other hand, the costs of converting station Cept standards to the Bell system have so far hindered such interesting prospects from becoming a reality. In fact, this problem is a real trade barrier which only the Japanese industrial group NTT-NEC-Hitachi-Oki, as well as Siemens and ITT, and, to a certain extent, Ericcson, have overcome.

But Europe is also fighting for brighter prospects. Since, on a strictly technological level, its telecommunications sytems match the most advanced AT&T stations and outdo the Japanese systems, Europe has placed its money on Race in order to achieve first place in the world for products such as wideband transmission networks, integrated systems capable of handling high resolution images, and "intelligent" software operating on fiber optics networks. But how can Europe attain this goal in a situation in which 60 percent of the European telecommunications industry has R&D costs which total twice its major competitors for every station line sold, even though these competitors are less culturally advanced?

The "supergroup" project stems from such a situation. It is based on a trilateral agreement on the opening of markets, technologies and exports. As an immediate result the common opening of the markets will allow competition to increase in the European marketplace. Inevitably, a reorganization process involving a worldwide sector will imply some sacrifice for some company. But the core of the information technologies is also directly involved in this situation, so it will also create new business opportunities and the opening of "niches" for further advances. This provides the possible solution to the complex situation that so far has prevented resources and productions from being reallocated in Europe. In other words, an Ericcson or ITT branch can be asked to reduce its domestic market share as far as switching exchanges are concerned if European-wide business "niches" for advances in several product lines can be guaranteed. At the same time, a European market could provide a sufficient base on which important projects clearing the way to technical advances (suitable for export), such as wideband networks, would grow and gain strength.

So far, so good. In the same way there is a commitment to launch a European standard, that is, technical regulations aimed at preventing the wasteful extra design costs (30 percent) in order to allow the systems to meet the current EEC member states regulations.

In this way, the feasibility of the proposals which have been put forward in the Eureka program (a wide-ranging plan concerning next generation switching exchanges which Italtel, Cit-Alcatel, and Plessey are developing) surely would be increased. Moreover, on the basis of the existing program, the positive start of the four-sided Italtel-Siemens-Alcatel-Plessey agreement on key switching components is spurring high hopes for real options, and for the potential involvement in the "European club" of the multinational company Siemens, which today is too large an elephant to abruptly board the unstable and unfinished boat of the European agreement.

But this is not the issue worthy of careful consideration. The key feature is that the French would like to add an agreement with the AT&T giant for a "market share exchange" with the "Europole."

This is what it is about: As early as several months ago the top-level management of the French CGE put forward a proposal to Mitterand's government for a trade agreement with AT&T which envisaged a U.S. market outlet for French communications products (an AT&T captive market), against an equivalent volume of ESS5 supplies to DGT France. At that time the proposal was rejected for obvious political reasons. Today such a program (which at present is under negotiation) can be proposed as an exchange with the European pole in order to resurrect the troubled Philips-AT&T joint venture based on ESS5.

The consequences of this move in the worldwide theater of information technology strategies could easily be foreseen. Another important player, the "queen" of the opposing field (data-processing) immediately took action. IBM's management is aware that the conclusion of this agreement is likely to result--nothing more, nothing less--in a strategic encirclement of IBM itself in Europe. This encirclement would be carried out by an opposing coalition under the supervision of AT&T, ranging from Philips of the Netherlands to Olivetti, with as many as five key industrial groups being merged in a cooperative venture, including at least two powerful PTT's. It would be virtually the end of IBM's ambitions to capture at least 40 percent of the $10 million market for new telematics services that is foreseen in Europe within 5 years.

This is why IBM is now raising its voice. Mr Kasper Kassani (who is a friendly and intelligent man) today is forced to shift his policy from the "Europe-bond" promises--which date from a few months ago at the time of the OSI opening and the outburst of enthusiasm for Esprit--to the threat of a deep "deregulation" in Europe. He must also take on the challenge of major customers (a field reserved to IBM) who refuse volume charges for data network utilization, dreaming instead of IBM satellites at a rate of $1.00 per transmitted gigabit.

That is why IBM adopted a unusually hard attitude during a meeting held on IEFE's premises at Bocconi University. IBM Italia has put forward a proposal to STET [Telephone Finance Corporation], to set up a telematics network, which IBM itself has designed and implemented, and which is capable of meeting the communication requirements of major customers according to architectures featuring high transmission rates and cheaper costs per bit than the Itapac network. Obviously, it is a network which is based on the SNA [Systems Network Architecture] architecture which recently opened in the OSI [Office of Scientific Information] standard.

Moreover, IBM Italia has conceived a proposal for an economic compensation to the Italian public network managers for the traffic coming from the already operating facilities which is routed to this network.

What is explained above are the general terms of the negotiations which are under way at present.

But besides the "high strategy" reasons that have been assumed above, the IBM Italia proposals are supposed to be a direct consequence related to the takeoff of programs such as Seva of Olivetti, Telvas of Montedison in addition to the leading place that Geisco has achieved in the fast-developing field of value-added telematics services. In conclusion, IBM has been trying unsuccessfully for about 5 years to reach operational agreements with the PTT (see the British example dating back to October 1984 when its agreement with British Telecom for the implementation of an IBM-made VAN [Value Added Network] network was blocked by the government), but today is outdistanced by fast-moving and more versatile European companies. This probably is the real reason which allowed the ticklish negotiation to be resumed. But Italy is only a piece of an international jigsaw puzzle.

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FRG BUNDESPOST PLANS EXPANSION OF 'BIGFON' NETWORK

Munich FUNKSCHAU TELEKOMMUNIKATION in German No 5, Feb 86 pp 36-39

[Article by Herbert Noll: "Bundespost Wideband Networks: Glass Times"; first paragraph is FUNKSCHAU TELECOMMUNIKATION introduction]

[Text] At the end of this year, transmission of the full text of the Bible from Hamburg to Munich in 1 second will no longer present any problem. For by that time at the latest the fiber optic long-distance circuit interconnecting the individual BIGFON islands is expected to be ready. Each cable of the approximately 1,000-kilometer "long-distance glass" will reportedly handle up to 565 MBits per second.

"New technology revolutionizes telecommunications" is the yellow-on-black wording in an information pamphlet issued by the German Bundespost regarding fiber optics and the experimental BIGFON system [Wideband Integrated Fiber Optics Long-Distance Telephone Network]. This 1983 brochure euphorically states: "For us the 20th century is already yesterday." In the meantime, the euphoria has abated somewhat and everyday procedures have turned to fiber optics as well. What remains is a technology capable of transmitting every single service offered by the Bundespost, ranging all the way from telephone conversations through data and text traffic to video conferences, via a bundle of optical fibers.

There Are Seven BIGFON Networks in Germany

At present, the Bundespost operates seven of these so-called "BIGFON-island networks," each serving 30 to 50 "fiber optic subscribers." These mini-networks exist in various large cities where diverse companies have responsibility for installation and maintenance of individual systems:

-Berlin: Krone, SEL [Standard Elektrik Lorenz], Siemens
-Hamburg: PKI
-Hanover: ANT, FUBA
-Dusseldorf: ANT
-Stuttgart: SEL
-Nuremberg: PKI
-Munich: Siemens

Bundespost specifications defining the technical capacity of BIGFON test installations refer to the simultaneous transmission of:

-at least 2 digital telephone, data, and text channels;

-2 to 4 switched TV channels or, alternatively, 2 x 6 dedicated parallel TV channels;

-4 switched or 24 single dedicated stereo broadcast channels;

-1 video telephone channel [bidirectional] with color TV quality.

The aforementioned companies are also to manufacture the technical hardware such as exchanges, optical fibers and copper/glass interfaces.

Trunk Line From Hamburg to Nuremberg

The installations have been operating for 1 year and all systems work satisfactorily, according to the Bundespost; even the failure rate of the installations is said to be within limits. Before the end of this year, the Bundespost wants to connect the BIGFON-islands with a fiber optic long-distance line in order to test "fast" Bundespost services between distant locations. This long-distance line crisscrosses Germany from Hamburg via Hanover to Berlin and from Hanover through the Rhine, Main, and Ruhr areas and Stuttgart down to Munich in the south. From there it goes back north, toward Regensburg and Nuremberg.

At this time cable installation teams are already working on an interconnect cable between the metropolitan areas of Swabia and Bavaria, "digging in" a type of optical fiber capable of transmitting 565 MBPS per strand. This so-called "monomode fiber" can handle up to 7,680 telephone conversations or 4 channels for video conferences or video telephones simultaneously, using a light transmitting core of only 8 micron diameter. This data capacity can only be reached because at short wavelengths [around 1.3 microns] the modulated laser light spreads in predominately linear form inside the fiber. There is hardly any delay differential between the light reflected from the perimeter of the fiber and the light propagating linearly inside the fiber. Because of the high bit rates thus achievable, the Bundespost could both reduce the number of strands per cable to 24 and increase the possible distance between signal processing "repeaters" to 32 km, in contrast with cables used up to now. In the laboratory, engineers are already bridging distances of up to 100 km using this technology, without the need for intermediate regeneration.

Gradient Fiber Up to Karlsruhe

This is different from the previously installed "gradient fiber," which requires a repeater to "recondition" bits every 18 km from Hamburg to Karlsruhe; 60 hairlike, ultra-thin glass strands are required for monomode data capacity. This is because in the gradient profile light propagates at different speeds depending on whether it is continuously reflected within the cable or "shines" straight through the center core. The effect is somewhat reduced by a trick: The core, which is 50 microns thick, is made of glass with different refraction indices [stronger from the inside to the outside]. However, light pulses arrive with delays of up to 1 nanosecond per kilometer.

Nevertheless, gradient technology is capable of transmitting an addition 140 MBPS per strand, sufficient for one video channel or approximately 2,000 telephone channels. Such a transmission capacity would never be fully used in the BIGFON tests. However, this approximately 1,000 km test cable has not been installed only for this test. The cable must also:

-increase the number of north-south telephone channels;

-be the main trunk for a nationwide video conference test network;

-form the basis for a universal fiber optic network with which the Bundespost intends to integrate all narrow and wideband services.

The Pipe Is Already Too Narrow

However, the "pipe" would already be much too "narrow" for that many tasks. But, as it is currently doing almost everywhere in the FRG, the Bundespost is burying at least empty pipes parallel to this long-distance cable, in which fiber optic cables can be inserted on short notice without high cost. Since 1984 the Bundespost has been adding a "spider web" of optical fibers to its underground copper cables. Installers take every opportunity during excavation and cable-laying operations to bury an equal length of optical fibers.

This standby cable system is called an "overlay network" and it will not be long before this "dormant" wideband network goes into operation. By 1992, the network should be completed. In 1986, 14 more local networks are to be equipped with these cables, i.e., Hamburg, Bremen, Berlin, Hanover, Dortmund, Essen, Dusseldorf, Cologne, Bonn, Frankfurt, Mannheim, Nuremberg, Stuttgart, and Munich.

In 1987, an additional 15 will be added in each of the larger metropolitan areas of each federal state.

In total, about 100 local networks must be equipped with wideband cable by 1992 in order to provide access for about 1,000 potential video conference subscribers. By the middle of next year, the Bundespost wants to have 150 video conference rooms wired into its broadband network, although not exclusively by optical fiber. Where the optical fiber network is not yet ready, the existing 2 MBPS coaxial cable network must suffice. This bit rate is sufficient for video transmission, but far from the color television quality we are used to. In extreme cases the whole picture may occasionally fail. This sort of problem does not exist in 140 MBPS technology.

For international video conference traffic, 2 MBPS generally should be sufficient, especially on overseas satellite links. So far, only West Germany has opted for the expensive but high quality 140 MBPS per video channel.

But even with advanced technology the Bundespost must advertise heavily to sell its broadband services. This is done through the operation of public teleconference rooms in 12 West German cities for "demonstrations." Here, prospective subscribers "can get acquainted with this new conferencing format." Like the BIGFON islands, these video conference rooms are spread throughout the FRG and West Berlin. However, not all are connected via optical fiber. International connections are possible.

Video Conferences Instead of Trips

The Bundespost sees the advantage of video conferences not only in avoiding costly and time-consuming trips and in simpler and quicker transfer of information, but also in the possibility of immediate exchange of supporting documents for joint work. Both technical and intracompany developments can thus be coordinated over many kilometers in a time-saving manner.

It is a good idea if, parallel to the video systems, equipment for information accompanying graphics, such as Telefax, word processing, and devices for the inclusion of hard graphics and other video materials are also available.

Such a long-distance conversation with eye contact is hardly inexpensive. In addition to investments for the conference room and its technical equipment as well as the one-time and monthly connection fees, there are also charges for actually carrying out such conversations to balance against the travel expense savings. (The current rate schedule is printed on page 37.) The subscriber must pay extra for additional postal services used, such as BTX, Telefax, or text transmission.

In spite of these costs, the Bundespost states that there are already more clients wanting connections than are currently possible. Nevertheless, it will probably not be until the 21st century that the "Telecommunications Revolution" is accomplished, not in the least because of the prices.

Summary

"The trunk lines of the future telecommunications network of the FRG Bundespost are already crisscrossing all of Germany. This year all of the BIGFON broadband islands are to be connected to that optical fiber network in which, among other things, picturephone communication is possible. A test network for video conferencing is likewise using this optical fiber layout. The Bundespost is counting on approximately 1,000 subscribers to these broadband services by 1992."

Subscriber Rates for the Video Conferencing Trial Operation

For connection of private video conference rooms to the video conference trial network and for processing of video conferences the following rates are charged:

1. Connection rates

a) one time	DM12,000
b) monthly	DM 1,500

2. Operating rates*

a) nationally for the total connection per hour	DM 800
b) within Europe for the German portion (half link) per hour	DM 1,200**
c) outside Europe for the German portion (half link) per hour	DM 2,500**

3. Reservation rates***
(operating rates as per 2)

a) national	DM 400
b) within Europe	DM 600
c) outside Europe	DM 1,250

4. Other rates

a) Surcharge for connections abroad as described under 2b and 2c beyond the transmission time agreed upon with the other adminstration per hour:	DM 150
b) Fee for the use of public video conference rooms in addition to the actual conference per hour:	DM 120****

* Calculated for national video conferences per beginning 1/4 hour unit and for international connections per beginning 1/2 hour unit. Minimum duration 1/2 hour (less reservation fee).

** The operating fee is charged to the German participant. The other administration charges accordingly in its area.

*** Even for reservations by the foreign subscriber the desired connection must be confirmed in writing with the Bundespost by the German participant.

**** Not for demonstrations or trial conferences.

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CSO: 5500/2607-M

FRANCE

BRIEFS

AEROSPATIALE BUILDING SATELLITES--The consortium led by Aerospatiale has been chosen by the organization for satellite telecommunications, Eutelsat, to supply its next three satellites with an option for five more. Aerospatiale obtained the Fr 1.5 billion contract after tough competition with another consortium led by Matra, which has already supplied the first four ECS's [European Communication Satellites]. As the prime contractor for these second-generation satellites, Aerospatiale is associated with Alcatel-Espace and with five other European companies: Marconi (UK), MBB [Messerschmitt-Bolkow-Blohm]-ERNO [Northern Development Area] (FRG), Aeritalia (Italy), Ericsson (Sweden), and ETCA [Space Technology and Construction Studies] (Belgium). The first launch, by either Ariane or the shuttle, will take place in 1989. [Text] [Paris L'USINE NOUVELLE in French 24 Apr 86 p 43]
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/9716
CSO: 3698/A127

ICELAND

GOVERNMENT ACQUISITION OF EARTH STATION LOWERS PHONE COSTS

Reykjavik NEWS FROM ICELAND in English Apr 86 p 6

[Text]

The cost of owning and using a telephone in Iceland is lower than in any other country in Western Europe or the USA. it is possible that the cost of phoning abroad will come down in the future, since control of Skyggnir, Iceland's earth station for satellite communications, has now passed completely into the hands of the Post and Telecommunications Administration.

A cost survey by the engineering firm Siemens at the beginning of 1985, based on annual telephone rent, one-tenth of installation cost and charges for 700 local calls and 200 long-distance calls, put Iceland at the bottom of the cost ladder at DM363 (about $140). Luxembourg came next at DM387, Sweden at DM426, and the highest European rate was in Norway, DM1,280.

Subsequently, in July 1985, further reductions were made in the Post and Telecommunications Administration's rates. The cost of installing a telephone fell by nearly 8%, and that of installing a telex machine by 45%. The quarterly rate for a telex machine dropped by 74%.

At the beginning of this year, the administration's agreement with the Scandinavian company, Det Store Nordiske Telegrafselskab, ran out, ending 25 years of collaboration in the field of international communications.

Iceland continues to rent the use of the undersea Scotice line, which is owned by the Scandinavian company, as a standby line in case of emergency.

New post and telecommunications charges took effect as from February 1. Postal charges rose by an average of 25-30%, making the basic rate for letters inland and to Scandinavia 25 cents, and about 31 cents to other European countries. Telephone rates between Iceland and the USA and Canada dropped by 15%, and telex charges to those countries came down by 32% and 50% respectively.

A spokesman for the Post and Telecommunications Administration said that it was not likely that there would be any further reductions in the scale of charges this year, because of unexpected claims by the Treasury and the cost of taking over Skyggnir. On the other hand, this year will see the completion of automation in the telephone system in Iceland, making automatic long-distance and international calling possible from anywhere in the country.

/9274
CSO: 5500/2651

ITALY

BRIEFS

VIDEOTEL FOR INDUSTRY--The industrialists association in Florence started the first Italian Videotel network designed for industry on 25 November. There are already dozens of subscribers who, for 50,000 lire per month, can immediately have at their disposal all useful information on industrial activities. Furthermore, a closed system for users, which will receive information from the association, has been created. Also taking part in the initiative is the Banca Toscana, with a service via satellite from the United States to publicize the commercial opportunities of over 100 countries. Through the bank, it is thus possible to obtain orders for products and services, representation of firms and licences, etc., from manufacturers and foreign importers, agents and distributors. [Text] [Milan VIDICON in Italian No 1, Dec 85/Jan 86 p 54] 8603/8918

OPTICAL FIBERS IN LOMBARDY--The municipality of Milan and the Lombardy region in mid-December signed an agreement to start an optical fibers network project in large Lombard urban areas. The contract, which was signed by Cavi Pirelli, Italtel, Sip and Sirti, foresees by the end of the 1980's a telecommunications network for the transmission of different types of information, such as voice data and images. It will also provide telematic services to professional and individual users. [Text] [Milan VIDICON in Italian No 1, Dec 85/Jan 86 p 54] 8603/8918

CSO: 5500/M2603

END

JPRS-TTP-86-014

2 JUNE 1986

Worldwide Report

TELECOMMUNICATIONS POLICY, RESEARCH, AND DEVELOPMENT

FBIS FOREIGN BROADCAST INFORMATION SERVICE

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2 JUNE 1986

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HONG KONG

MONITORS FIND GROWING INTERFERENCE ON RADIO, TV RECEPTION

Hong Kong SOUTH CHINA MORNING POST in English 16 Apr 86 p 20

[Article by Jimmy Leung]

[Text]

The telecommunications branch of the Post Office is now receiving a greater number of complaints from the public about radio interference on television.

The senior telecommunications engineer at the Post Office's spectrum monitoring section in Kun Tong, Mr Melvyn Wong, put this down to publicity about the complaints hotline (3-898131).

Said Mr Wong: "We used to get between 70 to 80 complaints a month, but the figure now is three to four times higher."

He said the section receives an equal number of complaints every month about interference on radio broadcast reception.

However, he said, just under half of the total number of complaints about radio interference on television were found to be non-existent.

And this wastes a great deal of the monitoring section's time and effort.

The chief telecommunications engineer (spectrum management), Mr Au Man-ho, said that before making a formal complaint viewers should first call in a technician to carry out a simple check on their television sets.

They can also ask their neighbours if they are also getting interference on their sets.

Mr Au said the Post Office is looking into the possibility of charging for its services, as in other countries.

"We are monitoring the situation closely," he said.

He said it has been established that the main cause of interference to reception is faulty television aerial amplifiers, known as TV boosters.

Other causes are poor maintenance of radio transmitters, the operation of plastic welding machines nearby and the illegal use of cordless telephones.

Between April 1, 1984 and March 31 last year a total of 229 faulty boosters were detected and removed.

"We collect all kinds of television boosters to test their quality," said Mr Wong.

According to the 1984-85 departmental report, the Post Office received a total of 2,441 complaints about radio interference.

About 45 per cent were related to interference to radio systems used by Government departments, 35 per cent to radio interference to TV reception and 15 per cent were from licensed mobile radio system operators.

The remaining five per cent were complaints about interference to radio broadcast reception.

The spectrum monitoring section is responsible for indoor monitoring of radio interference and outdoor investigations, measurement of interference levels, type approval of radio equipment (including radio pagers) submitted by manufacturers and servicing of its own radio equipment.

One of its prime tasks is to ensure there is no interference to distress radio signals and messages from ships and aircraft.

It is also vital that the radio reception of the Fire Services, police, Marine Department, Civil Aviation Department, Independent Commission Against Corruption, Towngas and the electric companies are not affected by interference.

The section's other responsibility is to investigate the illegal use of radio frequencies and to monitor the operational discipline of mobile radio users to ensure they do not infringe the conditions of their licences such as using foul language on the airwaves.

/9317
CSO: 5540/066

HONG KONG

BBC OFFICIAL VISITS, BACKS INDEPENDENT LOCAL BROADCASTER

Hong Kong SOUTH CHINA MORNING POST in English 4 Apr 86 p 22

[Text]

Plans for an independent public broadcaster in Hongkong were yesterday welcomed by the head of the pioneer in that field.

British Broadcasting Corps chairman Mr Stuart Young gave his seal of approval to the recommendation of the Broadcasting Review Board during a three-day visit to the territory.

"I think it is a very good idea to set up a board of governors and make RTHK more independent of government, modelled on the BBC style," he said.

"It is a very sensible recommendation – but it would be a bad idea to take advertising."

Mr Young was speaking before leaving for China, where he is due to sign an agreement for the sale of radio and television programmes.

He noted: "It would not be that similar to the BBC because it would not have its own channels."

But, a more independent RTHK, free from commercial pressure, would help keep broadcasting standards high.

He explained that many steps have to be taken before any changes of that kind are made.

"There are the new franchises to be worked out and so much more has to take place.

"RTHK is just one small part of a very complex package."

During his stay in Hongkong, Mr Young paid a visit to the BBC's new transmitter site in the New Territories by helicopter.

A $100 million, five-mast relay station is under construction in Tsang Tsui in Tuen Mun facing Deep Bay.

Mr Young said the building would be finished by June and then the electricians will move in to install the wiring.

The transmitter is designed to improve reception in Hongkong and beam the BBC's World Service into northern China – along with its putonghua and Cantonese services – and into the Soviet Union.

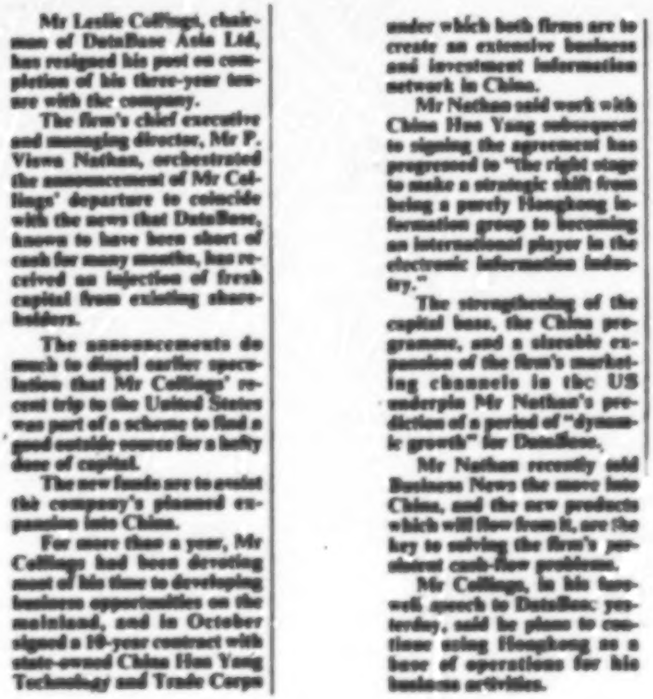
It is expected to start operating in November next year and Mr Young said the Chinese authorities had encouraged construction of the transformer.

/9317
CSO: 5540/066

DATABASE COMPANY CHIEF RESIGNS; PLANS FOR PRC WORK AIRED

Hong Kong SOUTH CHINA MORNING POST in English 15 Apr 86 Business News p 1

[Text]



Mr Leslie Collings, chairman of DataBase Asia Ltd, has resigned his post on completion of his three-year tenure with the company.

The firm's chief executive and managing director, Mr P. Viswa Nathan, orchestrated the announcement of Mr Collings' departure to coincide with the news that DataBase, known to have been short of cash for many months, has received an injection of fresh capital from existing shareholders.

The announcements do much to dispel earlier speculation that Mr Collings' recent trip to the United States was part of a scheme to find a good outside source for a hefty dose of capital.

The new funds are to assist the company's planned expansion into China.

For more than a year, Mr Collings had been devoting most of his time to developing business opportunities on the mainland, and in October signed a 10-year contract with state-owned China Hua Yang Technology and Trade Corps under which both firms are to create an extensive business and investment information network in China.

Mr Nathan said work with China Hua Yang subsequent to signing the agreement has progressed to "the right stage to make a strategic shift from being a purely Hongkong information group to becoming an international player in the electronic information industry."

The strengthening of the capital base, the China programme, and a sizeable expansion of the firm's marketing channels in the US underpin Mr Nathan's prediction of a period of "dynamic growth" for DataBase.

Mr Nathan recently told Business News the move into China, and the new products which will flow from it, are the key to solving the firm's persistent cash-flow problems.

Mr Collings, in his farewell speech to DataBase yesterday, said he plans to continue using Hongkong as a base of operations for his business activities.

/9317
CSO: 5540/066

SHANDONG HOLDS CONFERENCE ON RADIO, TELEVISION WORK

SK260419 Jinan Shandong Provincial Service in Mandarin 2300 GMT 25 Mar 86

[Excerpts] At the 25 March Third Provincial Conference on Radio and Television Broadcast Work, Lu Maozeng, deputy secretary of the Shandong Provincial CPC Committee, delivered an important speech, urging radio and television units to serve as a mouthpiece of the party, the government, and the people.

Lu Maozeng said in his speech: Since the 3d Plenary Session of the 11th CPC Central Committee, radio and television undertakings throughout the province have shown new development, and significant results have been achieved in radio and television propaganda. Radio and television units have done a great amount of work in disseminating and reporting the building of the two civilizations, publicizing the policy of opening to the outside world and enlivening the domestic economy, advocating the reforms in the economic and other fields, reporting party rectification and the efforts to resist and oppose unhealthy trends, strenghtening the propaganda on democracy and the legal system, spreading political, economic, and cultural information, and publicizing the current international situation, and have achieved very good results.

Comrade Lu Maozeng said: Radio and television broadcast is the mouthpiece of the party and the government, as well as the people. Shouldering the great trust placed by the party and the people, radio and television departments hold heavy social responsibilities, and therefore, should further correct the ideology guiding their professional work, and persistently take social benefit as the only criterion for their work. They should further foster and enhance a sense of party spirit, of the overall interest, of serving the audience and the viewers, and of discipline, unswervingly uphold the four basic principles of the party, wholeheartedly serve the party's general line, general task, and general objective, and the building of the two civilizations. In doing everything, they should submit themselves to the long-term basic interests of the country and the nation, take their prosperity and strength into account, and give consideration to the people's prosperity and happiness. Through radio and television propaganda, they should instill the people with confidence and strength. In short, they should loudly sing the socialist song for our era and people to inspire their spirit. This is the keynote and the major decisive force of radio and television propaganda.

Comrade Lu Maozeng stressed: Radio and television broadcast is a new undertaking with great prospects for development. CPC committees and governments at all levels should strengthen leadership over radio and television broadcasting work, successfully readjust and organize the leading bodies of radio and television departments, and grant them proper preferential treatment in finance. Radio and television departments at all levels should take the initiative in subjecting themselves to the leadership and supervision of CPC committees, and make timely reports to the CPC committees on the new problems and experiences in their practical work so that they can act successfully as the ears and eyes of CPC committees.

At the conference, 35 advanced collectives and 60 advanced individuals emerging from the radio and television units throughout the province were commended and given commendatory banners and certificates.

/12858
CSO: 5500/4156

PEOPLE'S REPUBLIC OF CHINA

INTERFERENCE OF FM TV SYSTEM STUDIED

Beijing TONGXIN XUEBAO [JOURNAL OF CHINA INSTITUTE OF COMMUNICATIONS] in Chinese Vol 6 No 4, Oct 85 pp 83-88

[Article by Wu Zhiyuan [0702 1807 0337], Gong Zhenghao [7895 2973 3185], and Chang Shengyi [1603 516B 3015] of the Department of Postgraduates of the Academy of Posts and Telecommunications Science, Beijing: "An Experimental Investigation of Interference Effects of FM TV Systems"]

[Abstract] The interference effects of single frequency, digitally modulated signal and radar signal on FM TV systems are studied by means of subjective and objective measurements. On this basis, weighting networks and weighting functions of the interference noise power are obtained and a method for evaluating the protection ratio is derived. The reliability of the evaluation method is confirmed by the fact that the evaluated values coincide very well with the subjective measurements.

I. Introduction

In the transmission of television signals using satellite and microwave relay systems, the interference effects due to other communication systems on the same frequency band must be considered. Both theoretical and experimental efforts are required in the study of the interference effect. The interference theory and computation algorithm of frequency modulated television system have been reported in Ref (1) and (2). In this paper we concentrate on the experimental study of interference effects and report the subjective and objective measurements, the interference noise weighting function and the computation of the protection ratio. The results of the subjective measurement are the degradation of image and the protection ratio of barely discernable interference. The result of the objective measurement is the bandwidth weighted interference noise power. In the past, a random noise weighting network[3] is used in the objective measurement, but the subjective effects of interference cannot be accurately assessed. In this work, we derived a weighting function for the interfering noise and calculated the interference reduction factor. By doing so the protection ratio obtainable from a subjective measurement can be more accurately estimated.

The subjective measurement of interference has been described in detail in CCIR Reports 449-1 and 634-1 and the interfering sources include FM and AM television. Reports on the objective measurement have been sparse. An empirical expression of the objective measurements in Canada was given in CCIR Report 449-1 but the express is valid only when the carrier frequency difference of the signal and the interference is zero. None of the reported measurements have considered the interference by digitally modulated signals and radar signals; these two cases are treated in the present work.

II. Subjective Measurement of the Protection Ratio

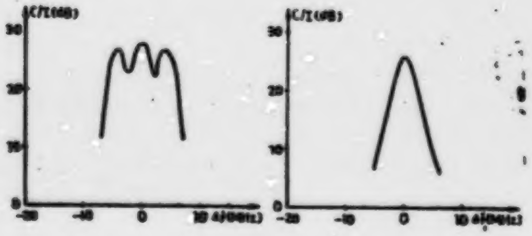
The subjective measurement of the protection ratio is made for the PAL frequency modulated television signal and for the interference by signal frequency signals and by PSK, ASK, and radar pulse signals on the same frequency band. The subjective measurements are conducted in accordance with the CCIR 500-2 and 600 recommendations. On this basis the protection ratio P_r is the C/I ratio (ratio of the unmodulated carrier amplitude and interference (4.5 level). When the observations are made by trained professionals, the results have relatively small scattering and are quite reproducible. Such data are valuable in establishing interference standards.

The subjective measurement originally calls for the SMPTE No 1 and No 14 slides. However, since such slides are incompatible with the Chinese-made scanning projector, we used the standard graphs produced in China. Since the interference depends on the image and the standard Chinese images have a relatively large area of uniform light background color behind the subjective figure (quite different from SMPTE No 1 and No 14), we selected a second image and used the average of the two measurement results. Subjective measurements are also made for the color bars but such results are not used as criteria. Figures 1, 2, and 3 show the measurement results. The rate of the PSK interference signal is 5 Mb/s, the pulse width of the radar interference signal is 2 ms, and the filling factor is 1:10.

III. Subjective Measurement and Weighting Network of Interfering Noise

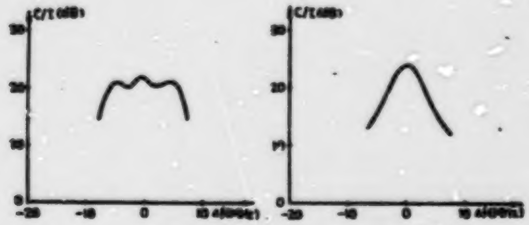
The useful signal and the ratio frequency interference signal received by an FM television receiver are demodulated to produce the video signal and the base band interference signal. Since the video signal is far greater than the interference noise, it must be eliminated first and then the interference noise power is measured with video frequency noise. This is a difficult task and the cancellation can never be complete. After careful tuning, the rms value of the sum of the residual signal and the thermal noise is 0.13-0.15 mV, with 0.05-0.07 mV attributable to thermal noise.

As stated earlier, in the objective measurement of the interference noise the random noise weighting network does not provide the visual effects of the interference. One should therefore find the interference noise weighting network and the corresponding weighting fucntion on the basis of subjective measurement and then measure or compute the weighted noise power in order to evaluate the visual degradation of the image. Specifically one can optimize the weighting network or weighting function by iteration until the weighted noise power does not change with the carrier frequency.



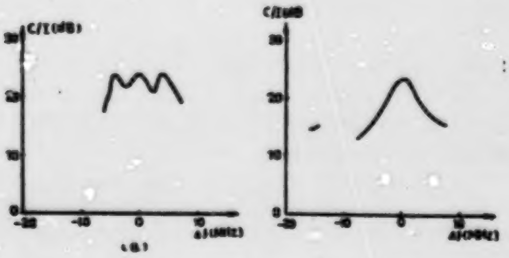
a. b.

Figure 1. Single frequency interference
(Note: In Figures 1, 2, and 3, a is for color image and be is for black-and-white image.)



a. b.

Figure 2. PSK interference. The ordinate values of 0, 10, 20 and 30 in Figure 2(a) should be respectively 3, 13, 23, and 33 dB.



a. b.

Figure 3. Radar interference

Since the weighted interference noise power computed by the method in Reference 2 agrees with the measured value, the weighted noise power may be computed for cases where measurements cannot be made. We denote the base band weighted interference noise power for the single frequency, the PSK interference, and the radar interference by P_n, P_p, and P_R respectively.

We than have

$$P_n=\frac{2A_2^2}{75A_1^2F^2}\sum_{n=1}^{1000}[nf_0g(nf_0)h(nf_0)]^2|C_n| \qquad (1)$$

where $$C_n=\frac{1}{4}(C_{n-k}+C_{n+k})$$

using $$C_m=f_0\int_{-1/2f_0}^{1/2f_0}e^{-\sum_{r=1}^{p}E[X_r^2]\sin^2\frac{\omega_r\tau}{2}}e^{-j2\pi mf_0\tau}d\tau$$

$$m=0,1,2,\cdots$$

We may compute C_{n-k} and C_{n+k}. Here f_o is 1/4 the running frequency, kf_o is the carrier frequency difference in MHz, F is the deviation of the marked peak frequency, A_2/A_1 is the amplitude ratio of the carrier before demodulation, $g(nf_o)$ is a weighting factor, $h(nf_o)$ is a deemphasis factor, X_r is the phase modulation index of the pre-emphasized video spectral line r of the signal, and ω_r is the angular frequency of spectral line r.

$$P_p=\frac{1}{75\pi}\int_{-11\pi}^{11\pi}W(\Omega)\left[\frac{\Omega}{M}h\left(\frac{\Omega}{2\pi}\right)g\left(\frac{\Omega}{2\pi}\right)\right]^2\left[S_{\Delta Pn+}(\Omega)+\frac{1}{2}S_{\Delta P0}(\Omega)\right]d\Omega \qquad (2)$$

where $M = 2\pi F$, $W(\Omega)\begin{cases}= 1 & |\Omega|> 0.02\pi\\ = 0 & \text{other}\end{cases}$

The excess phase shift power spectral density due to interference is

$$S_{\Delta P}(\Omega)=\left(\frac{A_2}{A_1}\right)^2T_s\sum_{n=-\infty}^{\infty}\left[|C_n|S_a^2\frac{T_s}{2}(\Omega-n\omega_s)\right]$$

$$=S_{\Delta Pn+}(\Omega)+S_{\Delta Pn-}(\Omega)+S_{\Delta P0}(\Omega)$$

where $S_{\lambda P_{n+}}(\Omega)$ and $S_{P_{n-\lambda}}(\Omega)$ are the sum of terms in $S_{\lambda P}(\Omega)$ when n is positive and negative, respectively; $S_{\lambda P_0}(\Omega)$ is the n = 1 term, and T_s is the width.

$$P_R=\frac{1}{\pi}\left(\frac{A_2}{A_1}\right)^2\sum_n\sum_p|C_n|\left[\left(\frac{P\omega_R+n\omega_s}{M}\right)g\left(\frac{P\omega_R+n\omega_s}{2\pi}\right)h\left(\frac{P\omega_R+n\omega_s}{2\pi}\right)\frac{\sin P\omega_R\tau_R/2}{P\pi}\right]^2 \qquad (3)$$

where the summing range of n and p is $0.02\pi<p\omega_R+n\omega_s<11\pi$, ω_R is the angular frequency of the repetitive pulse, and τ_R is the pulse width.

Using P_n, P_p, and P_R, the base band weighted S/N for different interference may be computed. $(S/N)_{Pr}$ is a function of the carrier frequency difference and the weighting function.

Subjective measurement show that:

1. The weighting function of a black and white television interference noise may be written as

$$g(f)=\left(\frac{f^4+a_1f^2+a_2}{f^4+a_3f^2+a_4}\right)^{1/2}\sqrt{G} \quad \text{Single frequency and PSK interference} \qquad (4)$$

$$g(f)=(a_5/1+4.3f^2)^{1/2} \quad \text{radar interference} \qquad (5)$$

2. For a color television, the weighting functions for low frequency and high frequency should differ in form. For f < 3MHz, the weighting functions are taken to be those in (4) and (5). For f ≥ 3MHz, the weighting function takes the following form.

$$g(f)=a_5 e^{-(f-f_c)^2/a_6} \qquad (6)$$

where f_c is equal to or slightly less than the auxiliary color carrier frequency.

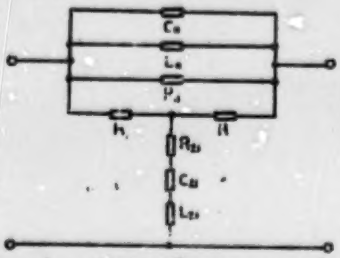
After repeated adjustments of coefficients $a_1 \sim a_6$, we have

$$E_r=\sum_{\Delta f_r=1}^{8} |(S/N)_{F_r}-50| \qquad (7)$$

The optimization process is to make E_r approach zero or sufficiently small. A computer may be used for this optimization. After the coefficients are determined, it is not difficult to achieve the weighting function with simple weighting networks. By making the asymptotic value of the base band weighted S/N ratio for interference threshold 50 dB in Eq (7), the weighting factor G of the black and white television interference noise spectrum will be unity. In the case of color television reception, G is a measure of the visual effects of low frequency interference for the various colors.

To correct for the small difference between the computed weighted interference noise power and the actually measured noise power, a weighting network may be used to finetune the component values to further reduce the dependence of the threshold weighted noise power on the difference of carrier frequency. For a black and white television, the optimization may be achieved by directly adjusting the component values of the weighting network and then compute the corresponding weighting function. For a color television, since the weighted interference noise power cannot be measured directly, the weighting network cannot be optimized directly. However, since the weighted noise power can be reliably computed, the method for optimizing the weighting function is also reliable. This is verified by the close agreement between the actually measured protection ratio shown in Table 3 and the estimated value.

Figure 4 shows the interference noise weighting network for a black and white television and the component values. Table 1 shows a comparison of the attenuation measured by the weighting network and the attenuation computed from the weighting function.



Interference source	Single frequency	PSK
R_{11}	11056 Ω	2408.66 Ω
C_{11}	30.17 pF	34.9 pF
L_{11}	28.93 μH	22.64 μH
R_{21}	0.51 Ω	2.34 Ω
C_{21}	5143.5 pF	4024.2 pF
L_{21}	169.7 nH	196.5 nH
R	75 Ω	75 Ω

Figure 4. Interference noise weighting network and component values for a black and white television

Table 1. A comparison of the measured and computed attenuation in dB

Frequency (MHz)		1	2	3	4	5
Single frequency	Measured	9.12	15.46	20.56	26.47	37.64
	Computed	8.88	15.34	20.56	26.42	37.64
	Difference	0.24	0.12	0	0.05	0
PSK	Measured	6.94	12.96	18.06	22.94	28.52
	Computed	7.39	13.44	18.06	22.66	28.52
	Difference	−0.45	−0.48	0	0.28	0

The interference noise weighting functions $g_n(f)$, $g_p(f)$, and $g_R(f)$ for the single frequency, PSK, and radar interferences are given below.

1. Black and white image

$$g_n(f)=\left(\frac{f^4-63.01f^2+976.79}{f^4+6084.92f^2+976.79}\right)^{1/2} \quad (8)$$

$$g_p(f)=\left(\frac{f^4-83.07f^2+1708.22}{f^4+7204.87f^2+1708.22}\right)^{1/2} \quad (9)$$

$$g_R(f)=(2.51/1+4.3f^2)^{1/2} \quad (10)$$

2. Color image
when $f < 3$ MHz

$$g_n(f)=\left(\frac{f^4-63.01f^2+976.79}{f^4+6084.92f^2+976.79}\right)^{1/2}10^{0.1} \quad (11)$$

$$g_p(f)=\left(\frac{f^4-83.07f^2+1708.22}{f^4+7204.87f^2+1708.22}\right)^{1/2} \quad (12)$$

$$g_R(f)=(2.51/1+4.3f^2)^{1/2} \quad (13)$$

when $f \geqslant 3$ MHz

$$g_n(f)=0.042e^{-(f-4)^2/1.8} \quad (14)$$

$$g_p(f)=0.056e^{-(f-4)^2/2.8} \quad (15)$$

$$g_R(f)=0.10\,e^{-(f-4)^2/6.8} \quad (16)$$

IV. Estimation of the Protection Ratio

Based on the subjective measurement results and the measured weighted interference noise power of a black and white image using the weighting network, we found that the carrier frequency difference varies in the 0-5.5 MHz range when the interference sources are single frequency or PSK signals. Also, the threshold base band weighted S/N ratio is close to 50 dB, as shown in Table 2. Therefore, a base band weighted S/N ratio of 50 dB corresponds to barely detectable interference and the carrier noise ratio at this time is the protection ratio.

Table 2. C/I and S/N (dB) for barely noticeable interference

Interference Source	Single frequenoy		PSK 5Mb	
Carrier freq. diff.	C/I	S/N	C/L	S/N
− 5 MHz	7	50.4	16	50.0
− 4	12	49.5	18	49.9
− 3	17	49.5	20	49.7
− 2	21	50.1	22	49.9
− 1	24	49.3	23	50.0
0	26	50.9	24	50.0
1	23	50.4	23	49.9
2	20	50.6	22	50.0
3	16	50.4	20	49.9
4	11	50.8	18	50.5
5	7	48.1	16	50.5

Using the results of Reference 2 and the values of B computed from the weighting function in this paper, the protection ratio for didferent interference signals may be obtained from the following equation

$$C/I=S/N-B=50-B \tag{17}$$

Since an ASK interference is the superposition of a single frequency and a PSK interference, and a PSK interference is the superposition of two ASK interferences, their protection ratio may be estimated from $g_n(f)$ and $g_p(f)$. Table 3 shows a comparison of the estimated and measured protection ratio using the weighting function method described here. The estimated values are generally greater than the measured values. Table 4 shows a comparison of the measured and the estimated protection ratio using an interference reduction factor[4] computed from the random noise weighting fucntion. As can be seen, the protection ratio estimated from the weighting function can indeed reflect the dependence on the carrier frequency difference. This estimation method of the protection ratio allows a unified calculation of the protection requirement, provides a method to compute the allowable values of the inter-station distance and interference carrier in a microwave relay communication system, and allows effective usage of the stationary orbit communication satellite and the frequency spectrum.

V. Conclusions

Subjective measurement results show that the protection requirements of a frequency modulated television system against single frequency, PSK, and radar interferences are the highest when the carrier frequency difference is equal to zero. The protection requirements of a color image are also high when the carrier frequency difference is lcose to the auxiliary color carrier frequency.

The protection ratios computed from the interference noise weighting function based on subjective measurement results and from the interference reduction factor given in Reference 2 are close to the actually measured protection ratio. The method of estimation can account for the modulation mode of the interference signal and the effects of modulation rate and carrier frequency difference; as a result, the algorithm is useful for the design and planning of communication systems.

Table 3. Protection ratios (dB) estimated from the weighting function

Image	Black and White image						Color image					
Interference	Single Frequency		PSK 5 Mb		ASK 5 Mb		Single Frequency		PSK 5Mb		雷达 2 ms 1/10	
Carrier Frequency diff.	Measured	Estimated	Measured	Estimated	Measured	Estimated	Measured	Estimated	Measured	Estimated	Measured	Estimated
−5MHz	7	7.4	16	17.4	13	11.8	26	26.6	23	23.3	22	19.0
−4	12	15.1	18	19.8	15	15.0	27	27.7	24	24.3	23	23.2
−3	17	18.7	20	21.6	17	17.4	25	23.9	23	24.8	21	19.8
−2	21	21.5	22	22.9	20	19.2	23	23.5	23	25.1	21	21.1
−1	24	25.1	23	24.6	22	21.8	27	27.0	24	25.2	23	23.5
0	26	25.6	24	25.0	23	22.4	28	27.8	25	25.2	24	23.5
1	23	25.1	23	24.6	21	21.8	26	27.0	24	26.2	23	23.5
2	20	21.5	22	22.9	19	19.2	22	23.5	23	25.1	21	21.1
3	16	18.7	20	21.6	17	17.4	25	23.9	23	24.8	20	19.8
4	11	15.1	18	19.8	15	15.0	27	27.7	24	24.3	24	23.2
5	7	7.4	18	17.4	13	11.8	26	26.6	23	23.3	23	19.0

Table 4.

Image	Black and White image			
Interference	Single frequency		PSK 5Mb	
Carrier Frequency diff.	Measured	Estimated	Measured	Estimated
− 5 MHz	7	22.3	16	20.8
− 4	12	22.9	18	22.3
− 3	17	23.3	20	23.6
− 2	21	24.2	22	24.5
− 1	24	26.6	23	25.1
0	26	26.5	24	25.3
1	23	26.6	23	25.1
2	20	24.2	22	24.5
3	16	23.3	20	23.6
4	11	22.9	18	22.3
5	7	22.3	16	20.8

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CSO: 5500/4151

PEOPLE'S REPUBLIC OF CHINA

BRIEFS

GUANGZHOU TELECOMMUNICATIONS SYSTEM --Guangzhou, 14 March (XINHUA)-- A 1,800-channel microwave telecommunications system linking Guangzhou, capital of Guangdong Province, and Haikou city was officially put into operation today. The system, 595 km long, can provide direct dialing services for 3,600 people between Guangzhou, Beijing, Shanghai, Hong Kong, and Macao. The system is "important" to telecommunications between Hainan Island, China's mainland, Hong Kong, Macao and foreign countries, said local officials. Another 1,800-channel microwave telecommunications system between Guangzhou and Shantou was put into operation last December. [Text] [Beijing XINHUA in English 1830 GMT 14 Mar 86 OW]

CHONGQING IMPROVES TELECOMMUNICATIONS SERVICE--Chongqing, 22 March (XINHUA)--Chongqing, China's most populous city, is installing an advanced telephone system to ease its shortage of public and office telephones, officials here said today. With a population of about 14 million, this city in southeast Sichuan Province has only 33,000 telephone lines, according to officials of the local telecommunications administration. The new system will add 10,000 new lines once installation is complete in October, they said. In addition, the officials said, by June Chongqing residents will be able to use a 480-channel, six-kilometer optical fiber communication line, the first in southwest China. Other fiber optic lines have been planned for radio facsimile, digital transmission and video signals. Over the next five years, the city plans to use foreign Imans to import a 50,000-line system. [Text] [Beijing XINHUA in English 1137 GMT 22 Mar 86 OW]

DIGITAL SCATTERING MICROWAVE COMMUNICATIONS--Chongqing, 7 Apr (XINHUA)--China's first digital scattering microwave communications system for civil use was put into operation yesterday in Sichuan province. The system, between Chengdu, the provincial capital and Chongqing, the province's major industrial center, is used for electric power distribution for the southwest China power grid. It is expected to further tap local hydroelectric power resources, according to officials here today. The system, developed in recent years, so far has been used mainly for military purposes. [Text] [Beijing XINHUA in English 2019 GMT 7 Apr 86 OW]

POLISH TELECOMMUNICATIONS AGREEMENT--Beijing, 13 April (XINHUA)--The Chinese Ministry of Posts and Telecommunications and the Polish Ministry of Posts and Telegraph signed a cooperation agreement here today. Vice-Chairman of China's National People's Congress Standing Committee Zhu Xuefan attended the signing ceremony. Chinese Minister of Posts and Telecommunications Yang Taifang and Polish Minister of Posts and Telegraph Wladyslaw Majewski signed the agreement. The agreement provides that the two ministries will carry out cooperation in post and telecommunication services, development of related sciences and technologies and production of telecommunication equipment. Zhu Xuafan met a Polish delegation led by Majewski after the ceremony. [Text] [Beijing XINHUA in English 1307 GMT 13 Apr 86 OW]

TELECOMMUNICATIONS THROUGH SATELLITE--China successfully launched its first telecommunications experimental satellite on 1 February. After the satellite position was fixed in the sky on 20 February, people in Xinjiang could directly receive programs broadcast by the Central Television station via transmission from the satellite received by the satellite ground station. Recently, comrades of the Xinjiang satellite ground station successfully conducted a telecommunications experiment. As a result, people in Urumqi can now directly talk to people in Beijing by telephone through the satellite. [Summary] [Urumqi Xinjiang Regional Service in Mandarin 1300 GMT 19 Mar 86 HK] /12858

AUTOMATIC TELEGRAPH RELAY--Nanjing, 21 Mar (XINHUA)--The Telecommunications General Bureau under the Ministry of Posts and Telecommunications declared at the National Automatic Relay Work Meeting, which ended on 21 March, that this year the China-made 256-circuit automatic relay equipment will be installed in the telecommunications bureaus in Xian, Changchun, Hefei, Wuhan, Hangzhou, Harbin, Zhengzhou, Taiyuan, Shijiazhuang, and Lanzhou. The general bureau also declared that it planned on disseminating the equipment to all provinces, municipalities and autonomous regions before the end of 1987, so that telegraphic communications throughout the country can thoroughly get rid of the backward artificial relay. [Excerpt] [Beijing XINHUA Domestic Service in Chinese 1517 GMT 21 Mar 86 OW] /12858

GUANGDONG RADIO COMMUNICATIONS REPORTS--Beginning today, the province's and Guangzhou radio stations will report each day the latest information about Guangzhou's communications, including air services, traffic conditions on highways, railroads, and waterways. The report will also cover the communications conditions of main highways, railroads, air services, and telephone lines throughout the province. It will also provide information on road safety and weather forecasts, as well as tourist services provided by the transport departments and suggestions by the public on improving traffic conditions. The report will last 5 minutes. The program is scheduled at 0610 and 1855 on Guangdong station No 1; at 1135 on Guangdong station No 2; and at 0650, 1305, and 1810 on Guangzhou radio station No 1. [Summary] [Haikou Hainan Island Service in Mandarin 0400 GMT 1 Apr 86 HK] /12858

XISHA ISLANDS GET ANTENNA--According to a JIEFANGJUN BAO report, the first antenna for receiving satellite-relayed television programs was completed on Yongxing Dao of the Xisha Qundao. The antenna is 6 meters high and 1.8 metric tons in weight. During its first try-out on 23 April, it functioned normally and produced clear pictures on television screens. It was formally inaugurated on 24 April. [Text] [Beijing Domestic Service in Mandarin 2230 GMT 24 Apr 86 OW] /12858

POSTAL, TELECOMMUNICATIONS MINISTRY SURVEY--Beijing, 22 Apr (XINHUA)--A survey of the composition of users of postal and telecommunications services--the first of its kind in China--will be conducted between 23 and 25 April across the country. The ministry of Posts and Telecommunications requests the close cooperation of users so as to make a success of this survey in the interest of improving postal and telecommunications services. The survey will be conducted simultaneously by some 50,000 post and telecommunications offices and stations throughout the country. According to the Ministry of Posts and Telecommunications, the purpose of the survey is to measure the volume of postal and telecommunications services used by different categories of users and the volume of such services required in different areas so that the amount of work involved in various kinds of postal and telecommunications services may be forecast. The survey will enable postal and telecommunications departments to reform and improve their management system and raise the level of their services. It will also provide a significant basis for the establishment of a reasonably located postal and telecommunications network and the formulation of a development program in this regard. [By correspondent Xu Dasheng and Reporter Jhang Jinsheng] [Excerpt] [Beijing XINHUA Domestic Service in Chinese 1441 GMT 22 Apr 86 OW] /12858

CSO: 5500/4156

PHILIPPINES

PHILCOMSAT REDUCES LEASE SATELLITE RATES

HK240340 Quezon City BUSINESS DAY in English 23 Apr 86 p 15

[Text] Philippine Communications Satellite Corp. (Philcomsat) yesterday reduced its lease satellite circuit rental rates by an initial 20 percent.

The Philcomsat board passed unanimously a resolution to this effect, specifying that benefits of the reduction would be passed on to the public in terms of lower telephone and telex rates, among other things.

Effectivity of the rates cut would have to coincide with a reduction in the rates of Philcomsat's clients upon approval by the National Telecommunications Commission. This was stressed during a Philcomsat board meeting.

Philcomsat has 602 fulltime circuits, of which 522 are rented by Philippine Long Distance Telephone Co., 44 by Philippine Global Communications, Inc., 25 by ITT Globe-Mackay, 22 by Eastern Telecommunications Philippines, Inc., and 7 by Capitol Wireless.

Philcomsat charges these clients an average of abour $2,400 per circuit monthly for points in the Asia-Pacific region and about $3,300 per circuit monthly for other points, including the United States mainland, Europe, and Africa.

With the initial 20 percent reduction, the effective monthly rates would be $1,920 per circuit for points in the Asia-Pacific and $2,680 for points outside the region.

A Philcomsat official told BUSINESS DAY in an interview that the cut in lease circuit rental should effectively result in a 20 percent decrease in international calls passing through the satellite. "There would not be any change in their (PLDT) operations, anyway, so we could accurately state a 20 percent decrease," the official explained.

Defense Minister Juan Ponce Enrile, Philcomsat chairman, told the board of directors that the 20 percent decrease was best "to see how the market will react, provided the effectivity of reduction is matched by a reduction in the rates of the telecommunications carriers in order that the reduction will benefit the endusers."

There were several possibilities mapped out by Philcomsat management concerning the amount of rates cut, but the company opted for reductions in the stages, starting with 20 percent.

Bulk of Philcomsat's revenues come from circuit rentals. The company leases its circuits to international record carriers which in turn serve the public.

Philcomsat operates two standard earth station antennae, one designated for the Pacific Ocean region and the other for the Indian Ocean region.

To accommodate the heavy Pacific traffic, Philcomsat has decided to buy a new antenna estimated to cost $9 million, including civil works and installation.

The management is considering applying for a supplier's credit, which is being encouraged by the Central Bank. Interest cost is estimated at 2 percentage points above the London interbank offered rate (LIBOR).

Enrile prodded management to seek a lower interest rate, considering Philcomsat's liquidity and ability to pay.

He said LIBOR plus two points, which he calculated at $180,000 per year "is a lot of money."

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CSO: 5500/4329

CANADA

BELL CANADA STRUCTURE, NEW PHONE SERVICE, RESEARCH EXAMINED

Holding Company Structure

Toronto THE TORONTO STAR in English 11 Apr 86 p E1

[Article by James Daw]

[Text] A $4.2 billion bid by TransCanada PipeLines Ltd. to grab Hiram Walker Resources Ltd. fits in with the ambitious growth objectives of Bell Canada Enterprises Inc.

Bell, which also owns the country's largest telephone company, has a controlling 48 per cent interest in TransCanada, the operator of the main natural gas pipeline from Western Canada.

When one of its companies grows, so does Bell. And, in case you hadn't noticed, it's been a few months since Bell found anything major to buy with all its money.

Bell chairman Jean de Grandpre has said Bell's objective for 1992 or 1993 is to make double the $1 billion in profit it earned last year. So the country's biggest money maker can't stand still for long.

This time, another company's urge for acquisitions provided the Montreal-based holding company with the inspiration and opportunity to make its move.

Hostile suitor

It's pitching in $200 million to help TransCanada pluck Hiram Walker from Reichmann-controlled Gulf Canada Corp., which Walker considered a hostile suitor.

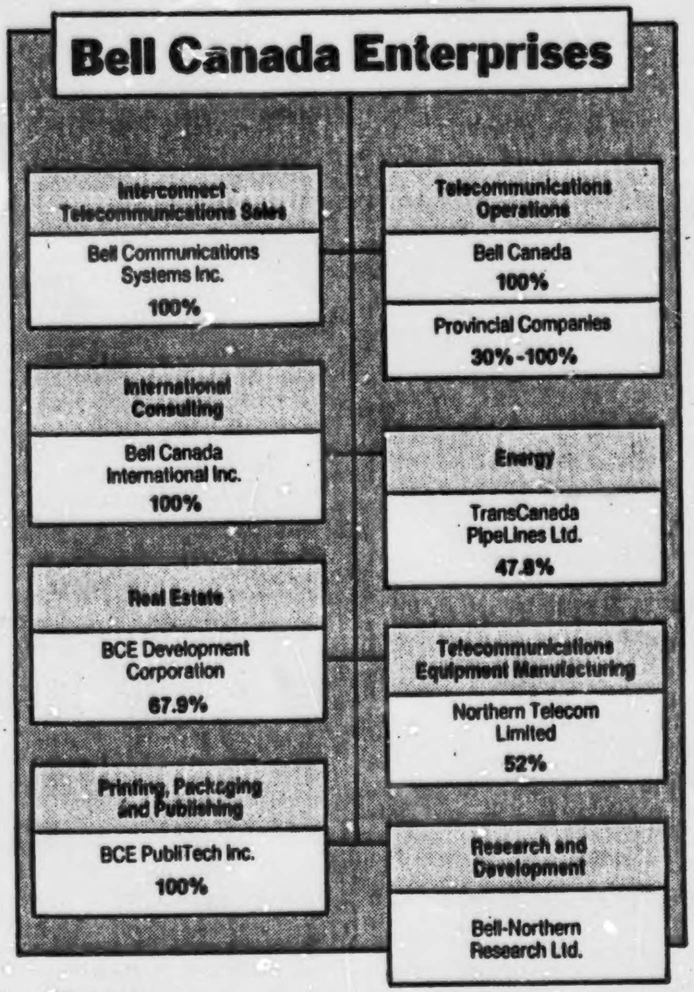
If TransCanada succeeds in getting Hiram Walker and selling the parts it can do without, it won't be such a huge acquisition or radical departure from Bell's previous diversification moves.

TransCanada has said it agrees with Walker selling its liquor business to the British conglomerate, Allied-Lyons PLC, and would sell the Consumers' Gas subsidiary, TransCanada's biggest customer, to avoid any conflict of interest.

What would be left in the end would be oil and gas producer Home Oil and a 34 per cent stake in the oil carrier Interprovincial Pipe Line, for an estimated net cost of about $900 million.

This would be the costliest takeover for Bell since it broke out of its shell in 1983 — the year management long-distanced itself from federal regulations applying to telephone companies.

The formation then of a holding company that would own Bell Canada suddenly gave de


Bell Canada Enterprises
Interconnect - Telecommunications Sales
Bell Communications Systems Inc.
100%
International Consulting
Bell Canada International Inc.
100%
Real Estate
BCE Development Corporation
67.9%
Printing, Packaging and Publishing
BCE PubliTech Inc.
100%
Telecommunications Operations
Bell Canada
100%
Provincial Companies
30%-100%
Energy
TransCanada PipeLines Ltd.
47.8%
Telecommunications Equipment Manufacturing
Northern Telecom Limited
52%
Research and Development
Bell-Northern Research Ltd.

Grandpre and his team much greater freedom to wheel and deal.

Initially, the stated objective of the new structure was to give Bell's high-tech gem — telephone and switching equipment giant Northern Telecom Ltd. — greater flexibility to expand.

But within months of its corporate restructuring, Bell had launched a $440 million bid to get 43 per cent of TransCanada. It later increased its holding to 48 per cent.

Since then, Bell has spent $123 million to acquire 69 per cent of Vancouver real estate developer Daon Development Corp., later renamed BCE Development Corp.

Other smaller acquisitions included a merchandiser of home computers, Computer Innovations; a U.S. printer of corporate literature, Case-Hoyt Corp.; a computer maintenance company, TRW Data Systems.

Bell's latest acquisitions have generally proven successful.

There has not been a repeat of the major error made by Bell's Northern Telecom subsidiary in the late 1970s.

Northern spent $250 million in 1978 to buy two fast-growing U.S. computer companies and forced an uneasy marriage. By the next year, it wrote off $164 million of the investment and suffered a record loss.

Only sketchy explanations were ever given of why things went so wrong so quickly. But investors and analysts were willing to forgive and forget, as Bell and Northern went on to pile success on success.

Consolidated revenues grew to $13 billion last year from $8.8 billion in 1983, while profit rose to $1 billion from $829 million.

No other Canadian company has ever had $1 billion in profit.

The bulk of the profit earned by Bell Canada Enterprises — 62 per cent of the $1 billion earned last year — still comes from its regulated telephone subsidiary.

More than $6 billion of Bell's $13 billion in revenue in 1985 was from the telephone business.

IBM of North

Northern Telecom contributed 19 per cent of Bell's bottom line, TransCanada 16 per cent and Bell's international consulting business 12.4 per cent.

Northern, of which Bell owns 52 per cent, is considered the IBM of the North, Canada's premium electronics and communications manufacturing company.

It is a leader worldwide in digital telecommunications technology, making about $3.9 billion of its almost $6 billion in sales in the U.S.

A reflection of how big and important Bell has become to the investment community in Canada is the huge weighting given the Bell group of companies in the bellwether 300-stock price index of the Toronto Stock Exchange.

Movement in the price of shares of the various companies in the group has almost as big an impact as all shares of the Canadian banks combined.

Because of Bell's immense size and profitability, it attracts investors from around the world, particularly the United States. The shares are traded in Europe, and last year Bell became the first Canadian company to have its shares listed for trading in Japan.

Message Waiting Service

Ottawa THE CITIZEN in English 11 Apr 86 p A15

[Text]

Bell Canada filed an application Thursday with the Canadian Radio-television and Telecommunications Commission for approval of a new Centrex III, a telephone service called message waiting, which allows unanswered calls to be rerouted and received using specialized software. The feature routes calls not answered promptly to a central answering position. A call-request feature allows users to notify each other of the need to return a call.

Research with Hydro-Quebec

Toronto THE GLOBE AND MAIL in English 18 Apr 86 p B6

[Text]

Bell Canada of Montreal and Hydro-Quebec are pooling research activities in certain areas of fibre optics, network management and control, and automated cartography.

They will develop applications of Bell Canada's Integrated Services Digital Network, where one line handles voice, data, text and images. Most of the work will be done at Hydro-Quebec's international research institute at Varennes, near Montreal. Applications could be used by Hydro-Quebec in remote management and control of its power system.

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CSO: 5520/76

CANADA

SCIENCE MINISTER OBERLE ON PRECEDENCE OF MSAT PROJECT

Toronto THE TORONTO STAR in English 15 Apr 86 p D2

[Text] OTTAWA (CP) — Science Minister Frank Oberle has signalled that a proposal to build an advanced Canadian communications satellite is closer to the government fast track than a competing plan to build a more expensive remote-sensing satellite.

Oberle told delegates to the semi-annual meeting of the Aerospace Industries Association of Canada yesterday that he hopes to announce soon "how we intend to invest in the launching of the mobile communications satellite."

The communications satellite — MSAT for short — is seen as leading the race for government approval over its competitor for federal dollars, the remote-sensing satellite Radarsat.

Ottawa torn

The race has pitted planners in the communications department against counterparts in the energy, mines and resources department. Communications designers are behind the MSAT project, while energy officials support Radarsat because of its potential as a tool for mineral exploration.

Oberle says he supports construction of both satellites, but the government's decision to spend at least $800 million to join the U.S.-led space station project has put the squeeze on funds for other space ventures.

Ottawa apparently favors MSAT because the communications satellite will initially be less costly to the federal treasury and because it has more potential for private-sector use.

Current estimates put the cost of MSAT at $250 million, but Telesat Canada Ltd., which would operate the device after launch, is seeking other investors to help pay for the satellite without any up-front money from Ottawa.

Oberle said the MSAT program has changed "from its status in 1980 as a government-financed demonstration system to a fully private-sector commercial undertaking."

Users of MSAT will be able to tune a tiny antenna mounted on anything from a truck or a ship to a dogsled, and be in touch by satellite with any place in North America. Planners say MSAT could have 60,000 subscribers by the turn of the century and earn $230 million a year in revenues.

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CSO: 5520/77

CANADA

CNCP LAUNCHES FIRST LINK OF FIBER OPTICS NETWORK

Toronto THE SUNDAY STAR in English 13 Apr 86 p 6

[Text] MONTREAL (CP) — CNCP Telecommunications inaugurated the first link Friday in a fibre-optics communications network which it says has the potential to cut Canadians' long-distance telephone costs by 30 to 40 per cent.

The link between Montreal and Toronto consists of 12 strands of glass fibre, each the thickness of a human hair, and it will be capable of carrying 70,000 simultaneous telephone conversations, said CNCP offical Robert Gervais.

There's one problem — CNCP doesn't have legal authority to compete in long-distance phone service.

The $20 million investment is part of a $500 million plan to provide all of Canada with an alternative to conventional copper wire for many types of communications.

The CNCP effort is intended partly to persuade the regulatory authorities that the company is serious about competing with telephone companies, said Gervais.

The company has also begun work on a fibre-optic link between Calgary and Vancouver, and expects to spend $400 million to $500 million building a national network.

"We certainly hope that the people who make the decisions will see this as a proof of our sincerity," said Gervais.

The Canadian Radio-television and Telecommunications Commission last year rejected CNCP's application to enter the long-distance telephone business, but the company has asked for permission to appeal the decision.

Federal Communications Minister Marcel Masse officially opened the Montreal-Toronto link, flicking a switch and picking up a phone to congratulate CNCP president Jack Sutherland, who replied from Toronto in a conversation simultaneously transmitted by video.

Gervais said CNCP will be able to use its fibre-optics network even if it doesn't get permission to compete in phone service, although some industry observers question this.

The initial users of the system will be corporations with a high volume of data communications, said Gervais. The first customer is Hudson's Bay Co. Ltd.

He and other company officials remain convinced that their high-tech effort will pay off.

"When we get finished we'll be the largest company in North America with a single-ownership fibre-optics system," said Gervais.

/13104
CSO: 5520/77

CSSR, GDR, POLAND PLAN SATELLITE TELEVISION SYSTEM

[Editorial Report] The Polish news weekly POLITYKA in its issue No 18 for 3 May 1986 carries a feature article on page 10 by staff writer Marek Henzler describing an ambitious new multilateral telecommunications venture slated to get under way in the near future. Henzler writes that some time within the "next several weeks" the governments of Czecholsovakia, the GDR, and Poland will sign an accord pledging them to share the costs of launching a TV relay satellite to give the national broadcast networks full coverage of their respective countries. The launch date for the Soviet-made satellite is said to be set for some time "during the next 4 years." Henzler reports that the satellite will be parked in a geostationary orbit "36,000 kilometers above the Gulf of Guinea. He offers additional information on the positioning of the satellite by noting that TV programming relayed by this satellite can be received by viewers equipped with 60-centimeter dish antennas aimed within the following angle-of-elevation and azimuth coordinate ranges in the following Polish locations, i.e., from 24 (Goldap area) to 30 (Zakopane) degrees angle of elevation and at azimuths from 198 (Swinoujscie) to 211 (Beskid Mountains area) degrees.

At present, Poland's two TV channels cover 96 and 77 percent of the nation's territory respectively. Henzler writes that it would cost less to pool resources with the CSSR and GDR in order to launch a satellite than to erect new ground transmitters and relays to achieve nationwide signal coverage. Furthermore, the quality of the video and audio signals would also be enhanced.

Under the terms of a 1977 Geneva accord among the European states Poland was allocated three satellite TV channels. Henzler reports that plans call for the retention of the gruond-based transmission system for regional TV programming and as a backup, since "there is no way we could afford to keep a backup satellite in orbit" in the event that the main satellite is permanently disabled or "deliberately shot down or 'blinded.'" Current plans also call for the installation of an uplink TV transmitter at Psary near the city of Kielce.

The article concludes with an overview of the history of satellite TV systems development in other countries and an analysis of some of the political and regulatory problems such a system will pose for Poland.

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CSO: 5500/3008

CB RADIO, CELLULAR PHONE USE RESTRICTED

Budapest MAGYAR NEMZET in Hungarian 7 Apr 86 p 5

[Interview with Jozsef Pete, head of the Frequency Control Group by 'Kertesz': "How Is the Post Office Trying to Eliminate the Disturbances Caused by CB's?"]

[Text] A blessing or a curse? These are the opinions concerning the widespread use of CB transmitter/receivers which supplement the telephone system. There are those who could not exist without them, for others it seems that for years the CB noise seems to be "dripping out of even the faucets." Raids often prove that many times the mobile units--mainly in private taxis--are broadcasting at significantly higher wattage than the prescribed 4 watts. Are there finally any results from the attempts to eliminate the disturbances that rattle the population's nerves? We asked Jozsef Pete, the head of the frequency control group.

First of all, I would like to draw public attention to the fact that today far fewer so-called crude complaints are received by our disturbance deterring places. On the average, we check out about 8,000 complaints annually, and of these only 5 percent are related to CB disturbances.

Kertesz: I think the reason for this is possibly that some of the complaintants have given up because their repeated protests have been for naught.

Pete: It is possible that there are these types of complaints too, but their numbers must however, be minimal. I should mention that many people often confuse CB disturbance with the so-called CP [Cellular] disturbance.

Kertesz: And what is this?

Pete: This is what the cordless telephone is called. Many sets of this technical innovation have been smuggled into the country and are being used without permission. To boot, they are being used on certain of the TV channels. Where we run across this we even confiscate the traditional telephone, too.

Kertesz: This is fine, but what is being done against the owners of radio-telephones who are taking the law into their own hands?

Pete: Since 1 February, every transport undertaking received a newly assigned channel on the lower band. With this we solved the protection of the broadcast programs on the so-called everyman's band. For this protection to be secure, all stationary and mobile CB sets have to be switched over, which obviously will take time.

Kertesz: Do you think that this change will bring about the desired results?

Pete: Of course, I am hoping, but I am not a prophet.

Kertesz: Then we have to agree with those who do not pay television use fees, who cite the "constant incursions" as the reason for not paying.

Pete: I have no intention of this. Television use fees are to be paid by all those who own an operational TV set.

/8309
CSO: 5500/8

BOLIVIA

BRIEFS

NEW MICROWAVE EXTENSION--Santa Cruz--The government has authorized the National Telecommunications Enterprise to carry out an intercommunication project using microwave on wide band between Santa Cruz and Puerto Suarez, on the border with Brazil. [Excerpt] [La Paz PRESENCIA in Spanish p 5, 6 Apr 86 PY] /12913

MICROWAVE SYSTEM INSTALLED--With an investment of more than $3 million in equipment, a microwave system between Argentina and Bolivia will be dedicated today. The conection will be made through the cities of Tarija and Campo Duran and it will permit communication between the countries of the River Plate Basin and the Andean group. This system has a capacity of 960 channels for telephone, telex, fascimile, computer data, and color television channel services. After the complementary communication systems are installed, international direct dial system with Argentina will be possible. [Excerpts] [La Paz La Red Panamericana in Spanish 1130 GMT 15 Apr 86 PY] /12913

CSO: 5500/2044

BRIEFS

NEW TV STATION--Globo network is today dedicating a new station in Sao Jose do Rio Preto. It will be called Northwestern Sao Paulo Television Globo. This station will serve 122 municipalities with a population of 1.6 million people and 226,000 homes. [Summary] [Rio de Janeiro O GLOBO in Portuguese 21 Apr 86 p 5 PY] /8918

NEW SATELLITE STATION--The Brazilian Telecommunications Company (EMBRATEL) will open another satellite communications station in (Morungama), Sao Paulo. It is scheduled to start operating during the Mexico soccer world cup. Embratel is investing 200 million cruzados in the project. When this station becomes fully operational, the (Engaba) station will take over the satellite telecommunications traffic for the southern region. This will account for half of the total traffic between Brazil and abroad. The (Tangoar) station in Rio will have a respite to enable it to cope with the expansion of the services planned for the next 10 years. [Text] [Brasilia Domestic Service in Portuguese 2200 GMT 2 May 86 PY] /8918

CSO: 5500/2045

SPAIN DONATES THREE 100 WATT RADIO TRANSMITTERS

PA291451 San Jose LA NACION in Spanish 24 Apr 86 p 2a

[Text] According to an announcement made by Information Minister Armando Vargas, Spain donated to our government, through an agreement, three 100-kilowatt radio transmitters which will operate in the shortwave range.

This agreement was reached in Madrid recently in a meeting in which Spanish officials, Minister Vargas, and future Culture Minister Carlos Echeverria participated.

The use of equipment will be made jointly by Radio Exterior de Espana and a station which, according to Vargas, will be called Radio International of Costa Rica, which will be created "very soon."

Minister Vargas said that with the equipment, the value of which is estimated at 22 million colones, an attempt will be made at sharing the services of international broadcasting which will allow the country to show "abroad the real image of what Costa Rica is like." According to this agreement, Radio Exterior de Espana will retransmit from our country its programs in Spanish--the station has programs in other languages--for Latin America.

Other aspects that the minister stressed as part of the mission that he carried out in Spain are:

The signing of agreement through which Spain will grant 50 scholarships to Costa Rican journalists, at a rate of 10 per year, which will cover a 12-month period. The consolidation of the professional training of local reporters is sought with this scholarship program.

The reaffirmation of Costa Rica's official petition that the EFE news agency install its Latin American office in San Jose. This office is currently in Madrid. This could imply the opening of 70 jobs for journalists with pertinent possibilities for local individuals.

/8309
CSO: 5500/2043

GRENADA

PAPER DISCUSSES ISSUE OF CONTROL OF 'DISCOVERY TV'

St Georges THE GRENADIAN VOICE in English 22 Mar 86 p 13

[Text]

GRENADIAN VOICE had discovered that Discovery T.V is, up to now, a total American operation controlled by Mr. David McCourt, with no local company being established, no Grenadian involved in the decision making regarding the development and direction of the station and no proper arrangements being made about the occupation; by the station, of the Morne Jaloux building which formerly housed the Cuban Embassy.

Both Mr. McCourt, in a recent interview with the VOICE and Prime Minister Herbert Blaize, in a press conference last week, said that Discovery Foundation is a non-profit organisation set up to establish television facilities in developing countries (of which Grenada is the first) with equipment and funding solicited from corporations, funding agencies and individuals in the United States. This solicitation is being aided by a letter from President Ronald Reagan in which he said, "I commend the Discovery Foundation and my fellow Americans for assisting the Grenadian people in this vital endeavour."

McCourt told the VOICE that he had himself contributed a substantial amount of cash to the project and that rather than going the way of certain stations and spending more money on "reception" equipment to receive and transmit programmes from other stations with no control over the content, Discovery had decided to put the most money in studio and transmission equipment and this have total control over the quality of programmes.

However, it has been discovered that the station has only a 10 watt transmitter located at Fort Frederick, which is unable to reach all households in the parish of St.George.

According to a fact sheet put out by the Foundation the "completed system will cost estimated $1.5 million in equipment and services provided by a variety of public and private individuals and organisations" and the "system is designed to be financially self-sufficient."

In only a partial answer to a question asked by the VOICE concerning the control of the station, and the arrangements for the use of the premises occupied, Blaize told the press conference that when the station is complete it will be handed over to the Government of Grenada. Further questioning was presented when the conference ended abruptly with the Prime Minister telling a reporter to "go to hell!"

/9274
CSO: 3298/422

BRIEFS

RADIO MANAGER--Mr Rawle Howard, a former staffer at Radio Grenada, was expected to arrive in Grenada on Friday April 3, and, according to information reaching the GRENADIAN VOICE, Howard will assume the position of Manager of Radio on Grenada. Meanwhile, the VOICE is also reliably informed that Mr Jerry Romain, whose last substantive post was that of Manager of Radio Grenada, has been confirmed in the post of Chief Information Officer. [Text] [St Georges THE GRENADIAN VOICE in English 5 Apr 86 p 3] /9274

CSO: 3298/422

GOVERNMENT PROPOSES 'STATUTORY' BROADCASTING CORPORATION

Kingston NEW TIMES in English 3 Apr 86 pp 1, 2

[Excerpts] "We could have followed the former Labour administration and ruled by decree," Minister John Horne said, "but that is not our style."

The Minister of Tourism, Information, Culture and Women's Affairs was addressing the House of Assembly today (Thursday) on the bill to set up a Statutory Corporation for Broadcasting in the country. Radio St. Vincent and the Grenadines (705) will be operated by the new Corporation, and cease to be a government department.

The Minsiter, in eloquent style, reminded the House that under the New Democratic Party Government, no opposition news has had to be submitted to the Ministry before airing, as was the case under the Labour Party.

The Labour Government had actually brought similar legislation before Parliament themselves, and had a first reading. But they got "cold feet", and never went through with it.

But their legislation though copied from St. Lucia's Corporation, contained changes to allow Parliamentarians to sit on the Board. The Minister pointed out that the new Board would have no Members of Parliament on it.

Radio 705 is one of the last stations in the Caribbean to still operate as a government department.

/13104
CSO: 5540/063

URUGUAY

BRIEFS

SATELLITE GROUND STATION--President Julio Maria Sanguinetti on 21 March dedicated the Manga satellite ground station, which will give Uruguay total autonomy in the area of telephone and television communications. The station's antenna, 32 meters in diameter, receives signals from a satellite located 36,000 km above the earth. The ground station sends the signals to a microwave antenna, which in turn transmits them to the Aguada station. The ground station cost approximately $10 million. [Summary] [Montevideo EL DIA in Spanish 22 Mar 86 p 6 PY] /8918

ROK DONATION OF MICROCOMPUTERS--The Education and Culture Ministry yesterday distributed 400 microcomputers, donated to Uruguay by the ROK Government, to a number of research and educational institutions. [Summary] [Montevideo Radio Carve in Spanish 0930 GMT 5 Apr 86 PY] /8918

CSO: 5500/2041

GANDHI ADVISER STRESSES NEED FOR COMMUNICATIONS POLICY

New Delhi PATRIOT in English 13 Apr 86 p 5

[Text] **Bangalore, April 12 (PTI)**—The need for a credible national communication policy keeping in view the contemporary political, economic and social situation was emphasised by media experts at a seminar here today.

Presiding over the seminar, organised by the Mass Media Education Research and Information Centre, Mr H Y Sharada Prasad, information adviser to the Prime Minister, said such a policy was necessary since the political situation and the cultural needs of people change often.

He stressed that there should be greater flow of information and the Governments, both at the Centre and in the States, should learn to share more information with the people in order to educate them and make them self-reliant.

Mr Sharada Prasad also said the Government should recognise the right of the Press the function in its own way and felt the Constitution and the courts provide enough safeguards in this regard.

Mr Sharada Prasad, however, doubted if in matters like allocation of inputs, customs, excise and labour laws, the newspaper industry could claim a special dispensation.

He pointed out there were two sore points with the proprietors, one was the special concern shown by legislaters towards working journalists and the other the rate for government advertisements released through the directorate of advertising and visual publicity.

Exploring the communications scene for better understanding of the problems and potentialities, Mr Sharada Prasad said the Press was facing new problems everywhere, even in the advanced democratic societies.

Mr Sharada Prasad said the Indian Press was in an expansive mood, revelling in its new power and wealth and self-criticism was rare. The press had no time to ask itself whether it was doing its job well, whether it was fulfilling its responsibilities to the public.

'It is no longer the editors alone who editorialise. We have the flourishing post-emergency breed, the syndicated columnists. The Press also has its own band of public prosecutors in the form of investigative reporters. The credibility of the Press is very high in its own estimation. We have had no public opinion polls to find out what the people actually think of the Press, he added.

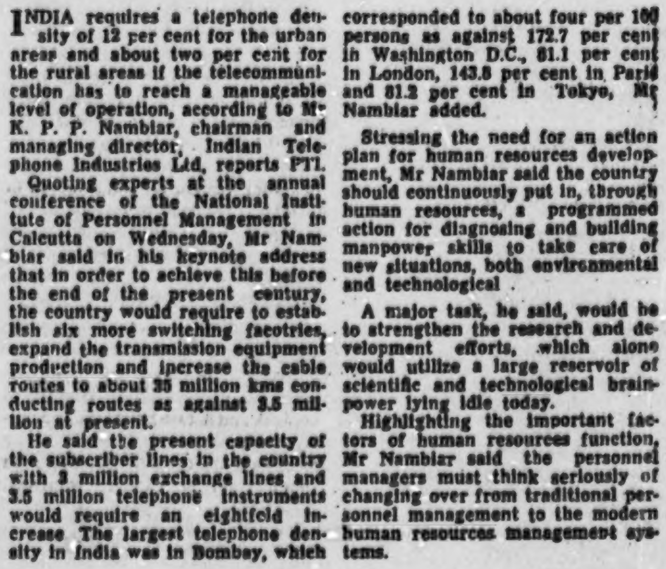
Turning to the television explosion in the cultural life in the last four years, Mr Sharada Prasad said TV was desired mainly for entertainment. Its potential for communication and education was yet to be exploited. Without deteriment to entertainment, he felt, it was possible to ensure that parts of TV were used for education and for providing information, which would enable people to improve their judgment, working skills and earning capacities.

/12851
CSO: 5550/0110

TELEPHONE OFFICIAL DISCUSSES INDIA'S EQUIPMENT NEEDS

Calcutta THE STATESMAN in English 10 Apr 86 p 15

[Text]



INDIA requires a telephone density of 12 per cent for the urban areas and about two per cent for the rural areas if the telecommunication has to reach a manageable level of operation, according to Mr K. P. P. Nambiar, chairman and managing director, Indian Telephone Industries Ltd, reports PTI.

Quoting experts at the annual conference of the National Institute of Personnel Management in Calcutta on Wednesday, Mr Nambiar said in his keynote address that in order to achieve this before the end of the present century, the country would require to establish six more switching facotries, expand the transmission equipment production and increase the cable routes to about 35 million kms conducting routes as against 3.5 million at present.

He said the present capacity of the subscriber lines in the country with 3 million exchange lines and 3.5 million telephone instruments would require an eightfold increase The largest telephone density in India was in Bombay, which corresponded to about four per 100 persons as against 172.7 per cent in Washington D.C., 81.1 per cent in London, 143.8 per cent in Paris and 81.2 per cent in Tokyo, Mr Nambiar added.

Stressing the need for an action plan for human resources development, Mr Nambiar said the country should continuously put in, through human resources, a programmed action for diagnosing and building manpower skills to take care of new situations, both environmental and technological .

A major task, he said, would be to strengthen the research and development efforts, which alone would utilize a large reservoir of scientific and technological brainpower lying idle today.

Highlighting the important factors of human resources function, Mr Nambiar said the personnel managers must think seriously of changing over from traditional personnel management to the modern human resources management systems.

/12851
CSO: 5550/0109

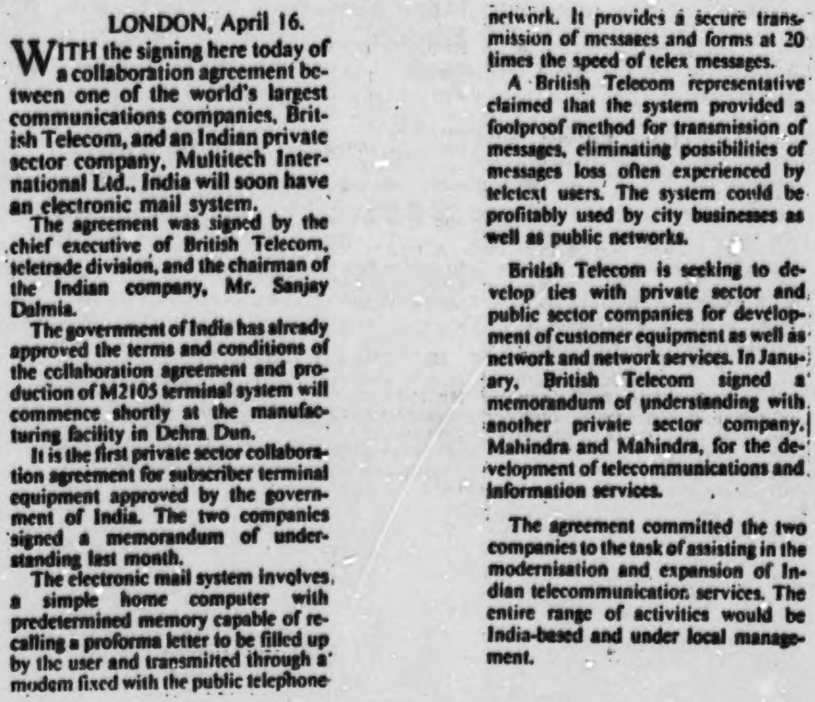
INDIA

BRITISH, INDIAN COMPANY COLLABORATE ON ELECTRONIC MAIL

Bombay THE TIMES OF INDIA in English 17 Apr 86 p 9

[Article by K. N. Malik]

[Text]



LONDON, April 16.

WITH the signing here today of a collaboration agreement between one of the world's largest communications companies, British Telecom, and an Indian private sector company, Multitech International Ltd., India will soon have an electronic mail system.

The agreement was signed by the chief executive of British Telecom, teletrade division, and the chairman of the Indian company, Mr. Sanjay Dalmia.

The government of India has already approved the terms and conditions of the collaboration agreement and production of M2105 terminal system will commence shortly at the manufacturing facility in Dehra Dun.

It is the first private sector collaboration agreement for subscriber terminal equipment approved by the government of India. The two companies signed a memorandum of understanding last month.

The electronic mail system involves a simple home computer with predetermined memory capable of recalling a proforma letter to be filled up by the user and transmitted through a modem fixed with the public telephone network. It provides a secure transmission of messages and forms at 20 times the speed of telex messages.

A British Telecom representative claimed that the system provided a foolproof method for transmission of messages, eliminating possibilities of messages loss often experienced by teletext users. The system could be profitably used by city businesses as well as public networks.

British Telecom is seeking to develop ties with private sector and public sector companies for development of customer equipment as well as network and network services. In January, British Telecom signed a memorandum of understanding with another private sector company, Mahindra and Mahindra, for the development of telecommunications and information services.

The agreement committed the two companies to the task of assisting in the modernisation and expansion of Indian telecommunication services. The entire range of activities would be India-based and under local management.

/12851
CSO: 5550/0111

INDIA

BRIEFS

NEW TELEPHONE CORPORATION--New Delhi, April 7 (PTI)--The Mahanagar Telephone Nigam Limited, a single corporation comprising Bombay and Delhi telephones, was formally launched by the communications minister, Mr Ram Niwas, Mirdha, here today. The nigam will develop, maintain and operate telephone, telex and other telecommunication services, excluding telegraph, within the Union territory of Delhi and areas falling under the Bombay Municipal Corporation, the New Bombay corporation and the Thane Municipal Corporation. Speaking on the occasion, Mr Mirdha said the Nigam, like any other public sector enterprise, would have the autonomy to raise the much needed resources for the development of telecommunication services in Delhi and Bombay as well as to supplement the budget allocation for this in other parts of the country. Mr Mirdha said the government had decided to launch the nigam after a considerable deliberations as to how the telecommunication sector could be given a fillip in expansion as well as introduction of modern technologies and services. The minister said that though the telephone services had improved both in the matter of expansion and quality during the last several years, the Nigam should take adequate steps to see that a reliable service with higher customer satisfaction was provided. [Text] [Bombay THE TIMES OF INDIA in English 8 Apr 86 p 9] /12851

CSO: 5550/0112

ISRAEL

BRIEFS

NEW RADIO TRANSMITTER IN 'ARAVA--Speaking at the inauguration ceremony of a new IDF radio transmitter (20 kw, AM) in Hayun in the 'Arava region, the chief of staff said: "We are inaugurating a new, additional IDF radio transmitter. This is a very important step because in order to serve the soldiers, the station must find a way to reach them wherever they are." The transmitter will provide the thousands of soldiers serving in the area, who have thus far been unable to receive the station's broadcasts, with proper reception. The new transmitter was dedicated by Chief Communications Officer Brigadier General Moti Bar-Dagan. Yosef Nevo, the chairman of the Soldiers Welfare Society which raised money toward this end via a telethon broadcast, also attended the ceremony. [Text] [Tel Aviv HA'ARETZ in Hebrew 8 May 86 p 3 TA] 12228

VOA TRANSMITTER SPECIFICS--Details have been released on construction of a Voice of America [VOA] transmitter. The transmitter will be located in the 'Arava region on land that had been designated for Jewish settlement. About 8,000 square dunams will be appropriated for the transmitter; 150 workers will be employed to construct the station. The VOA antenna will stand 200 meters tall. The Interior Ministry estimates that the planning of the transmitter will go on for at least another 6 months. [Text] [Jerusalem Domestic Service in English 1100 GMT 7 May 86 TA] 12228

CSO: 5500/4503

PANA DIRECTOR LAUDS ACHIEVEMENTS OF PRESS AGENCY

AB142109 Dakar PANA in French 1643 GMT 13 Apr 86

[Text] Brazzaville, 11 Apr (ACI/PANA)--PANA has entered its stage of consolidation PANA director general Auguste Mpassi-Muba disclosed.

Addressing journalists of the CONGOLESE PRESSE AGENCY (ACI) who were meeting in Brazzaville, the PANA director general expressed his satisfaction with PANA's present production capacity which, over the past few months, has gone from 20,000 to 25,000 words per day.

Mpassi-Muba attributed his increase in wordage to the increasing efforts of the national press agencies which participate in the operations of PANA, by increasing the number of their dispatches. Thirty-five out of the 41 agencies which have ratified the PANA agreement take part in this cooperative action, he specified.

The direct assistance UNESCO gives to PANA and other national press agenices, by way of supply of technical equipment and scholarships for training, constitutes an important factor in the development of the Pan-African agency, even though it faces a few communications and transmission problems. These communications problems, which are either due to the colonial heritage which makes African countries remain attached to their former masters or to economic difficulties still prevent press agencies from easily transmitting or receiving information to or from PANA.

According to Mr Mpassi-Muba, for the moment PANA's major concern is to make operational the Kinshasa, Khartoum, Lagos, and Tripoli regional stations in order to prevent the agencies from paying heavy fees for the transmission of their news. The East African countries currently use the Lusaka (Zambia) station which is the only one of the five stations functioning well.

This willingness of the management of the Pan-African agency, coupled with the financial aid which it will soon receive from the Arab Bank for African Economic Development, will enable it to attain the objectives assigned it by the heads of state, especially to correct the distorted image given to Africa by foreign agencies, to promote a South-South news exchange program and to create a new world communications order.

The PANA director general, who arrived in Brazzaville on Wednesday [9 April] from Lagos, leaves the Congolese capital on Monday [14 April] for Luanda, (Angola).

/6662
CSO: 5500/65

GHANA

FLOOD DAMAGES ACCRA TELECOMMUNICATIONS SYSTEM

AB052208 Accra Domestic Service in English 2000 GMT 5 May 86

[Excerpts] The chairman of the PNDC [Provisional National Defense Council], Flight Lieutenant J.J. Rawlings, and all the service commanders of the Ghana Armed Forces were the first to respond to the initial call to aid victims of last night's flood in parts of Accra.

The National Mobilization Program and a team of military personnel are providing relief services to the people affected. The relief officials are still assessing the extent of damage. At Avenor, about 30 houses have been flooded. Ten of them collapsed and 15 were submerged. The relief team is providing tents at Avenor and Alajo to those rendered homeless. The National Mobilization Program has provided 50 tents and 400 blankets. The base of the Accra-Nsawam railway line has been eroded at Achimota by the flood, making rail transport impossible. The swift currents swept away a 7-year-old daughter of the rail guard living nearby when they attempted to wade across the flood which had entered their home.

The flood also caused major disaster to the national telecommunications system. The P and T [Posts and Telecommunications] international switching center at the Accra North Post Office on the banks of the Odo River was completely flooded. Millions of dollars worth of modern equipment for telephone and other communications facilities were submerged under 4 feet of water while the defense wall of the compound gave way under the force of the flood waters. First estimates by the corporation put the cost of the damage at about $10 million. The equipment was commissioned only 5 months ago. As a result of the damage, trunk calls in all parts of the country have [ceased]. Also, there cannot be any international telephone calls for Ghana. Television transmission to areas outside Accra has also been affected. However, international telex operations are still going on. The management of P and T has set up a task force to assess the real extent of damage and to try to retrieve equipment which may still be in good working conditions.

/12228
CSO: 5500/68

GUINEA-BISSAU

NEW RADIO STATION FOR COAST INAUGURATED

Bissau NO PINTCHA in Portuguese 1 Feb 86 p 3

[Excerpt] Last Tuesday at the Bandim Broadcasting Center, Comrade Mussa Djassi, minister of Information and Telecommunications, inaugurated Phase 1 of the new coastal radio station, a project which is an important undertaking in spite of its limitations in terms of covering the entire nation.

In Minister Djassi's opinion, the new coastal station will "make it possible to contact boats operating in Guinean territorial waters whenever necessary, providing any necessary information."

The installation of a more complete coastal station, i.e., a more versatile station, was also brought up by the minister of information and telecommunications, who asserted that a plan already existed to do so and has been under study by an unnamed Portuguese company. "In spite of its importance, I believe it is an undertaking which the country cannot realize on a short-term basis, Mussa Djassi explained, adding that "its cost is estimated at $2.5 million. There is no doubt that this project would yield far greater results, i.e., basically reaching the entire Guinean coast."

For the time being, various obstacles prevent the realization of this important project, which is budgeted under the 4-Year Plan, since telecommunications is considered to be one of the important considerations in policy for the socioeconomic development of the country.

The minister pointed out that the two radio transmitters that had been providing communication services on the Guinean coast have not been operational since 1980, due to a lack of spare parts.

According to information provided by Technician Roque Lopes, "It is only with great effort that we are able to keep the terminals working."

One of these transmitters is located at Caio and rated at 500 kW and the other is at Alto Bandim and rated at 421 kW.

8844/12859
CSO: 5500/35

RDN ACQUIRES FM TRANSMITTER, ANTENNA

Bissau NO PINTCHÀ in Portuguese 11 Jan 86 p 4

[Text] RDN (National Radio Broadcasting) has just received a 2,000-kW FM transmitter and antenna under a UNESCO program, which will also include the installation of a beacon light on the tower at the Nhacra Broadcasting Center.

According to Engineer Tcherno Sanha, head of RDN's Technical Services, assembly of the new transmitter, which will take place in Nhacra, will have to await the arrival of an English technical team commissioned by UNESCO from ICOMTEL.

According to Engineer Sanha, its installation will provide better coverage of the nation and it will be a great improvement for RDN: at 2,000-kW, the new transmitter is more powerful than the current one, which is rated at 1,000 kW and barely reaches 30 km.

With the 2,000-kW transmitter, a broadcasting radius up to 45 km can be served. In radio, a larger broadcasting area means a larger listening audience.

Along with the new transmitter, RDN received other equipment which Engineer Sanha also considers to be important, such as the beacon to be installed on the 160-meter medium-wave antenna, which posed a serious danger to aircraft. The beacon will now enable pilots to avoid this danger.

The equipment also includes paint so that the tower can be painted in compliance with the international standards of the International Civil Aviation Organization.

According to Engineer Tcherno Sanha, the new antenna will be installed on the same tower as the medium-wave antenna.

8844/12859
CSO: 5500/55

MALI

BRIEFS

TV TRANSMITTER FROM LIBYA--Bamako, 12 Apr (AFP)--Mail will receive from Libya a second transmitter of 10 kilowatts meant for Malian television, a project implemented with the Libyan assistance, Mrs Fatou Gakou Niang, Malian minister of information and telecommunications, announced on Saturday upon her return from Tripoli. Mrs Gakou also stated that Mali and Libya had agreed to further strengthen and intensify their bilateral cooperation in the field of information. It is in this regard that, she pointed out, six Malian engineers will be trained in Libya in the television sector, and Libyan television will supply Malian television with cultural, musical, and sports programs. Moreover, the press agencies of the two countries will accredit permanent correspondents in Bamako and Tripoli, and an "information and cultural (Libyan) week" will be organized in Bamako this year. [Text] [Paris AFP in French 1230 GMT 12 Apr 86 AB] /6662

CSO: 5500/64

BRIEFS

FIRST DISPATCH TO PANA--ANP, NIGER NEWS AGENCY, yesterday, 15 April, 1986, sent its first news dispatch to PANA [PAN-AFRICAN NEWS AGENCY] whose headquarters is in Dakar. It is a significant event because in the range of instruments for the collection and propagation of news items, the new agency is the only sector where we are lagging behind as compared with other countries of the subregion. [Text] [Niamey Domestic Service in French 1200 GMT 16 Apr 86 AB] /6662

CSO: 5500/65

NIGERIA

COMMENTARY EXAMINES PROBLEMS WITH SATELLITE STATIONS

AB061047 Kaduna Domestic Service in English 1700 GMT 5 May 86

[Mahmud Baba Ahmed commentary in the program "In Focus"]

[Text] When he paid a courtesy call on the Emir of Kano, Alhaji Ado Bayero, last week, the assistant director of postal services, Mr Zomed, disclosed that his department would operate an aircraft service to facilitate speedier mail delivery throughout the federation. The use of the aircraft is part of the strategy the Ministry of Communications is considering to make postal services more effective by involving fast vehicles on the land and both in the maritime and riverine areas to deliver express mails. It is not the first time Nigerians have learned of the desire of the Ministry of Communications to improve its services which, despite their unique importance to our integrated development, have remained unsatisfactory. That was why in his response, the emir urged the ministry to improve its services so as to enhance its image and cultiave more public confidence. His plea was timely because the image of the ministry is now at stake.

The question (?is) that various arms of the Communications Ministry have been plagued by gross inefficiency and have undoubtedly failed to live up to expectation. Its image has therefore been dented while majority of Nigerians were disenchanted with it. What then are the factors responsible for projecting the ministry in poor light? These are numerous and varied. Chief among them are the delayed mails, unreliable telephone lines, malfunctioning telex, and inaccessibility to overseas partners by whatever medium. So, the credibility of the ministry was questioned when it allowed these conditions to persist and defy solution. But the solutions applied and the measures taken by the ministry to eradicate its problems were only superficial and not intended to serve as a long-term remedy. [Words indistinct] the ministry explained its inability to avail itself of the services of domestic satellite stations, (Domstat), that it has been strategically located in all the state capitals. These stations are each (?served) with a powerful earth satellite programmed to a space satellite which in turn was linked with a giant satellite suspended over the Indian Ocean, covering the whole globe. The (Domstat) stations are replete wtih all types of communications facilities that could appropriately be used to overcome the inadequacies and shortcomings of our communications outfit. Regrettably, this is not the case. Built at a cost of 880 million naira 10 years ago, the stations have 10,000 lines each of telephone, telex, teletype and telegraph in addition to multiple radio and television signal carriers.

It was said the project, executed by an American /word indistinct/ firm, had not been handed over to the Ministry of Communications and could therefore not be put to use. It was also reliably learned that even if the project was handed over to the client, it could not immediately be beneficial to the nation without first providing the means of channeling the advantages of the (Domstat) station to the existing facilities in the telephone exchanges.

The building erected at /word indistinct/ premises in many towns and state capitals to accommodate the apparatus linking the (Domstat) stations with the exchanges were found to be unsuitable on account of structural defects and were consequently abandoned and together with the project left to lie derelict. Such buildings could be seen alongside the (Domstat) stations in places such as Kano, Zaira, Bauchi, Maiduguri among others and were said to have cost at substantial amount of money to construct.

It is a pity that the Federal Government does not seem to be taking any concrete measure to (?reinforce) or complete the buildings and to stimulate the process for the takeoff of this project. With the commissioning of this project, all telecommunication services will not only improve, thus making contacts simple and easy, but will also ensure that technical and financial constraints that have encumbered the present microwave system are permanently eliminated. As it is now, the only way the nation benefits from this white elephant project is through the application of a single advantage of the (Domstat) in transmitting and receiving television broadcasts. This is why it is possible to telecast the national network news of the NTA /Nigeria Television Authority/ nationwide.

Messages by telephone, telex and teletype across the country could be sent and received much more easily and conveniently if all subscribers could go through the (Domstat) stations. The Federal Government has invested so much in the field of telecommunications; yet the purpose has not been achieved. It therefore cannot afford to allow the (Domstat) project to suffer the fate of the Aerostat balloon project which was unwisely cast aside after it devoured almost a billion naira. For a fast developing country, modern and reliable telecommunications facilities are a must. However, the tempo of our march to progress is hampered by our incapacity to propel it with adequate telecommunications technology. The only way to do this is to free the (Domstat) stations from all influences that tended to render them ornamental monuments or worthless acquisitions. As a first step, the Federal Government should hasten to take them over from construction firms and make them functional. They alone contain the whole range of the answers to our problems and by mobilizing their resources, the Ministry of Communictions could improve its services significantly. It will also enhance its efficiency and redeem its image. If that is done, then it can tell the nation loud and clear that it has won.

/12228
CSO: 5500/68

BRIEFS

SATELLITE EARTH STATION MODIFICATION--The domestic satellite earth station of the Nigerian Telecommunications Limited, NITEL, is to undergo a 1-year modification for improved services. NITEL said in a statement that during this period, there would be intermittent interruptions in network programs in all the states of the Federation. [Text] [Lagos Domestic Service in English 1200 GMT 25 Apr 86 AB] /6662

CSO: 5500/67

SOUTH AFRICA

BRIEFS

BOESMANSKOP TRANSMISSION STATION--The SABC's Boesmanskop transmission station is to be linked to the corporations television network tomorrow. A 1-kilowatt transmitter will begin relaying TV1 programs on channel 23, and will be horizontally polarized. UHF reception antennas marked in red or white will have to be used in order to obtain best reception. The station will serve Boesmanskop, Zastron, Wepener, and surrounding areas. During the first month, test transmissions will be broadcast and programs may be disrupted without warning in order to carry out necessary technical work and repair faults. /Text/ /Johannesburg Television Service in Afrikaans 1545 GMT 29 Apr 86 MB/ 12228

TV TRANSMITTER AT GEORGE--Johannesburg, 28 Apr, SAPA--The South African Broadcasting Corp. announced today that an additional television transmitter at George would start operating on 1 May this year. "This transmitter (1-kilowatt output) will broadcast TV2 and the service area, which will be the same as that of the TV1 transmitter, includes George, Mossel Bay and surrounding areas," said a statement. It "will broadcast TV4 after the end of the day's TV2 transmission at 21h30." "The transmission would be on Channel 11 and vertically polarized. VHF receiving antennas, colour coded blue and presently used to receive the TV1 transmission, will suffice," it said. The first 5 months of operation would be considered as a test period during which transmissions may be interupted without warning or apology to carry out necessary adjustments or repairs. The statement said the long test period was required because of temporary arrangements being utilized to allow the transmitter to become operational "much sooner." /Text/ /Johannesburg SAPA in English 2250 GMT 28 Apr 86 MB/ 12228

CSO: 5500/69

UGANDA

BRIEFS

POLISH RADIO-TV AGREEMENT--Today the People's Republic of Poland and Revolutionary Ethiopia signed a radio and television cooperation agreement that will enable them to further strengthen their relations in the field of mass communications. The 5-year agreement was signed by Comrade Feleke Gedle Giorgis, member of the WPE Central Committee and minister of information and national guidance, and by Comrade Andrzej Konopacki, ambassador of the People's Republic of Poland to revolutionary Ethiopia. Under the agreement the two countries will exchange radio and television programs, cover general development activities in each others country and jointly coordinate films. They will also exchange television experts, radio reporters, information and experience. [Excerpt] [Addis Ababa Domestic Service in Amharic 1700 GMT 3 Apr 86 EA] /6662

CSO: 5500/64

ZAMBIA

BRIEFS

SATELLITE EARTH STATION PROJECT--A Canadian company has obtained a $7.5 million contract to build a satellite earth station near Lusaka. The station will give Zambia a direct telecommunications link with INTELSAT system avoiding the need to rely on South Africa for such things as international telephone hookups. /Text/ /Lusaka Domestic Service in English 0500 GMT 25 Apr 86 MB/
12228

CSO: 5500/68

VOA RELAY STATION IN PUERTO RICO TO SPREAD 'SLANDER'

LD082133 Moscow TASS in English 1824 GMT 8 Apr 86

/Text/ Havana 8 Apr TASS--The United States started building in Puerto Rico a relay station of the subversive "Voice of America" radio, the PRENSA Latina News Agency reported today. The relay station is being built for the purpose of beaming propaganda programs to countries of South America. According to a statement of Puerto Rico's Secretary of Natural Resources Alejandro Santiago, the relay station is being built near the city of Cabo Rojo, on the territory leased by the United States for 25 years.

Relay stations of the "Voice of America" and other U.S. radio stations that are spreading slander have been springing up in various areas of the globe of late. Incendiary boradcasts to Cuba are now beamed by a radio station built in Florida. In Israel U.S. specialists started building relay stations to make propaganda broadcasts to countries of the Middle East.

Speaking in Congress of the United States, Director of USIA Charles Wick was advertising in every way his agency's activity and was asserting that USIA is on the frontline in the war of ideas. The White House intends to increase USIA's budget to nearly 1 billion dollars in the 1987 financial year.

Vast expenditures on slander show clearly that the Reagan Administration views the ideological expansion in the world arena as one of the most important instruments of the United States foreign policy. It is not accidental that Charles Wick speaks of the "war of ideas." Nuclear explosions at the test site in Nevada, the piratic sally in the Gulf of Sidra, preparation for an invasion of Nicaragua--these and other aggressive actions directed against developing countries that refuse to yield to U.S. diktat are the essence of Washington's neoglobalism. USIA and subversive radio stations of that agency are assigned the task of backing that militaristic course by propaganda.

/12228
CSO: 5500/1010

NORDIC COUNTRIES' MOBILE PHONE SYSTEMS OVERBURDENED

Copenhagen BERLINGSKE TIDENDE in Danish 24 Apr 86 Sect III p 9

[Article by Thomas Larsen: "Mobile Telephones Wildly Successful, With Problems"]

[Text] There is not enough room: "We find ourselves in a rather grotesque situation. Quite simply, there are not enough channels for our customers. Therefore, in reality, we are operating on a rationing system at the moment. We are only allowed to sell a limited number of telephones per month, even though the demand is very strong." This is what director Carl Johan Morck from the firm Radiotelefon has told BERLINGSKE TIDENDE.

In 1978, the firm was taken over by the Philips concern. In the succeeding years, activities have increased ten-fold.

The firm's success has been handled clumsily. Not the least, it has brought forth problems: the sale of mobile telephones has now reached its upper limits. There no longer are telephone lines or channels enough for users. At the moment, the waiting time for potential purchasers is a month--they cannot get into the existing network earlier.

By and large, the situation is the same in the rest of the Nordic countries. The ceiling of 400,000 subscribers will be reached in 1987. In order to be able to continue the growth, the firm of Radiotelefon--which functions today as the product center for mobile telephones and navigational equipment for the entire Philips concern--has put up the sum of one million kroner for development of new systems and products in order that additional telephone lines can be established.

World Premier

At the end of April, the firm will introduce its new car telephone, NMT 4111, to the world market. The cost of product development is 50 million kroner.

In the fall, the firm will market a 900 megahertz car telephone--a telephone which can operate on the 900 megahertz frequency. Instead of the 180 channels of the current system, the 900 system will be able to carry 1,500 channels. The total capacity of subscribers can expand from the present 400,000 to about 1.4 million. And then, telephones again will be able to be sold to an increasingly growing market.

Last Friday, the firm delivered the new car telephone--the 900 model--for approval by the Post & Telecommunications authorities. "Notwithstanding that Post & Telecommunications will not put the new 900 megahertz network into operation until October, we must be ready with our products now. In order to be ahead of the others, we need to be ready to enter the market before it exists," says Bent Norholm-Jessen, plant director of the Philips firm, Radiotelefon.

12578
CSO: 5500/2659

EUROPEAN RESEARCH NET PLANNING WITHIN EUREKA

Amsterdam COMPUTERWORLD in Dutch 4 Mar 86 pp 1, 6

[Article by Willem Koole: "Political Support Bringing European Research Network Closer"; first paragraph is COMPUTERWORLD introduction]

[Text] Amsterdam--"I estimate that the political consensus reached last month in Bonn by the 18 countries involved in EUREKA accelerates by about 2 years the existing plans for a European research network," said engineer F.M.M. van Iersel, senior consultant in Amsterdam's James Martin Associates.

The fast growing office of British origin is temporarily in charge of the RARE (Associated Networks for European Research) secretariat. RARE groups specialists in infrastructures and telecommunications. With the European Commission it is now going to develop further plans involving the industries concerned and the PTT [Post, Telephone & Telegraph] organizations of the participating countries.

As a first example, the implementation of an electronic mailing system based on the X.400 standard is under consideration. "Just a consensus on the standard to be chosen is so important," says van Iersel, "because before long it will enable all the national networks, including the Netherlands SURF network, to function as one European facility."

Van Iersel points out that a genuine consumer standard is under discussion and that the consumer has been taken as the starting point. This can easily be done as the whole field is still so new that there are no vested interests as yet and thus no contradictions to be reconciled.

A Timetable

Now that the further development of plans has been given a green light, a timetable will be established in June during the third ministerial conference of the EUREKA countries in London. The project provides for the overall coordination of national plans such as the one being developed in the Netherlands by the Cooperative University Calculation Centers [SUR] under the direction of Doctor J. Rosenberg. The SUR also represents the Netherlands within RARE.

The intention is to give RARE a permanent secretary this year with financial support from the European Commission. Last October, the Netherlands Ministry of Science and Education made its provisional start in Amsterdam financially possible.

The important role of the computing centers does not imply that priority will be given to linking these centers. This is only regarded as an additional possibility. Most important is the creation of a new facility for scientific researchers to exchange messages rapidly. This capability already exists between, for example, scientists in high-energy physics and users of the European laboratory CERN [European Center for Nuclear Research], but it certainly need not be limited to those in the exact sciences.

When asked for an estimate of the network's utilization in 5 years, van Iersel answered that 20 to 25 percent of the scientists in the exact sciences and 10 percent of those in other scientific endeavors in Europe will be involved.

This is a very rough estimate and, moreover, it does not tell us much about the intensity of the traffic expected on the network. Because a cultural change comparable to the introduction of the telephone system is involved here, forecasting is extremely difficult indeed.

Luxembourg

The intention to create a European network for scientific researchers was clearly expressed for the first time during a workshop held in Luxembourg in May 1985. The discussion resulted in the establishment of a steering committee for RARE under the leadership of Peter Linington of the British Rutherford Appleton Laboratory. The Netherlands is represented on the steering committee by C.A.M. Neggers of the Computing Center of the University of Nijmegen.

A great deal of the communication between committee members takes place electronically. This also applies to decision making. By the end of May, another large workshop will take place in Copenhagen.

Karl Zander, a German professor associated with the Hahn Meitner Institute in Berlin, is also one of the initiators. In the past he has organized meetings to reach an accord on communication protocols. The starting points, such as the utilization of the X.400 on the recommendation of the CCITT [Consultative Committee of International Telephone and Telegraph], were determined in Luxembourg. Moreover, it was decided to use only connections based on the X.25 standard. In practice this implies the use of PTT facilities.

The OSI [Open Systems Interconnection] model also plays an important role in the development of ideas. After that of exchanging messages, priority is given to transferring files (i.e., transferring large quantities of information) and to the compilation of directories of information services. To realize these plans effectively, an application has been made to the European Commission for a subsidy of 400,000 ECU [European Currency Unit] (approximately 1 million guilders).

25031/12859
CSO: 5500/A014

DBS PROGRAMMING CONTENT, TECHNOLOGICAL APPLICATIONS

Milan VIDICON in Italian No 3, Mar 86 pp 45-48

[Article by Carlo Gagliardi: "Satellite Television: Public Vs Private Competition Gets Stronger and Stronger"]

[Excerpts]

Olympus: Europe TV

On 21 November 1985, the RAI Board of Directors authorized the membership of the broadcasting body in the pool for the use of the Olympus satellite channel destined for the UER (European Broadcasting Union). Besides RAI, the following broadcasting bodies also belong to the pool, which is open to all UER members: the FRG (ARD), Ireland (RTE), the Netherlands (NOS), and Portugal (RTP).

The Olympus satellite will be launched in 1987. In the meantime, the Netherlands government has made available to ECS satellite (Eutelsat) transponder to allow the pool members to immediately start experimenting with television broadcasts received by various countries (first of all the Netherlands, which is particularly well equipped) through cable systems.

The Olympus TV (Paneuropean satellite channel) project experimental phase actually started on 4 October 1985.

The recent decision on this project goes together with the 5-year agreement between RAI and ESA (European Space Agency), which was signed in Rome on 23 November 1984. This agreement grants RAI exclusive rights to a direct broadcast channel for 5 years through the Olympus satellite, which would carry two transponders with their antennas, one reserved for RAI and the other, as granted by subsequent agreements, for UER.

RAI will first use its transponder for experiments connected with Eurikon project, which was started in 1982 by Italy and four other countries--Great Britain (IBA), the FRG (ARD), Austria (ORF), the Netherlands (NOS)--broadcasting "point-to-point" a multisource program relayed through the OTS (orbital test satellite) built by ESA and launched by NASA.

Olympus is the "stage name" of the experimental satellite L-SAT (Large Satellite) proposed by ESA after the failure in 1979 of the H-SAT (Heavy Satellite) project, which was caused by the withdrawal of France and the FRG.

L-SAT (Olympus) has a "multifunction space platform" which allows, in addition to DBS, other services such as data communications, videoconferences, and so on.

The project was created through the financial efforts of eight countries: Great Britain (34.3 percent), Italy (32.8 percent), the Netherlands (11.8 percent), Canada (9 percent), plus Belgium, Austria, Denmark, and Spain with lower percentages.

Italian industry plays a leading role in this project. ESA appointed Selenia as prime contractor for the entire electronic content of the Olympus satellite, while British Aerospace will be responsible for the "base satellite" or carriage.

Italy is responsible for the payload, the integrated telecom system including, among other things, the direct broadcast transponders. But let's go back to the Paneuropean television pool (Europe TV). How does it work? It is a pool based in Geneva, at UER, with a temporary operating center at Hilversum (at least until the end of ECS experiments).

ECS programs will be broadcast by cable or by earth transmitters in the authorized countries.

Olympus satellite programs will also be received by the most widespread viewing public. The pool funds include members' financial contributions as well as any other income such as advertising, sponsorship, or program sales.

The total investments of the four founders amount to 30.2 million Swiss francs (about 25 billion lire) and are divided as follows: Italy (RAI) 43 percent, Germany (ARD) 25 percent, the Netherlands (NOS) 22 percent, Ireland (RTE) 10 percent.

The pool decisionmaking body is the Board of Directors, which is formed by representatives of each member and the appointed chairmanship which rotates among the various countries.

The board appoints the executive committee for operational services and program scheduling. The board also appoints the chief executive and the managers (program scheduling, technical, administrative, general matters), makes decisions on general policy problems, issues planning and advertising laws and rules, and approves annual budgets and actual costs.

Finally, the board works out the entire schedule of vertical and horizontal sequences, time subdivision zones, and so on.

Multilingual Programs

Europe TV's fundamental programming aim is the European spirit and as far as possible, multilingual services. Broadcasting covers 5 hours per day (from 1900 to 2400) which could double in 2 years. The whole schedule is constituted as follows:

--programs directly bought by the pool;

--programs made available by members, from their own stocks or from other sources;

--original programs produced ad hoc for Olympus TV.

The experimental content includes a daily news bulletin which will be developed into the news program, a short children's program (supplied on a rotating basis by members as a meeting point for new generations), and a survey (e.g., ways of living, economy, culinary traditions, etc.). These will precede the Olympus TV News which will be designed to interest European viewers, in particular, without, however, being artificial, but trying to be complementary to the national news, and reflecting different shades of opinion, and agreements and disagreements between European states and peoples.

The original OTN project follows some fundamental criteria on the selection of news to be included:

1. Important international events taking place in the various European countries;

2. Main national events occurring in every European country;

3. News from all over the world influencing Europe or part of it;

4. Any other intrinsically relevant news.

After the news program the schedule foresees a program on a specific topic different every day: sports on Mondays, theater on Tuesdays, music on Wednesdays, and so on. The movie broadcast from 2130 to 2300 will also be related to the day's topic. This rigid and thematic structure takes into account advertisers needs, to whom are offered definite targets and optimized campaigns.

Production Community

Under the production profile, Olympus' philosophy will benefit programs coordinated, produced or coproduced or ordered by the pool. In addition, Eurovision programs, repeats of the best programs of individual partners, and productions from other UER members will be broadcast. Also, moving along this line of integration among European televisions is the European Community Television, which aims at counterbalancing traditional broadcasting flows (above all, from the United States). The community was founded in July 1985 to produce "long duration serials." The enterprise, which was projoted by RAI and conducted by Massimo Fichera, was also supported by French Antenne 2, British Channel Four, Austrian ORF, Swiss SRF, and the German ZDF. It is the first common effort by important European televisions (among which is the commercial Channel Four) to increase their autonomy on international markets.

Improved Quality: MAC-C and MAC-D2

DBS consists of sending a TV signal to an orbiting geostationary satellite, which amplifies it and forwards it back to a widespread area on earth where it can be directly received by home TV sets through individual or community parabolic antennas (about 90 cm in diameter). Technical problems and marketing strategies, justifying user's additional costs to obtain a service coming from the sky, match together in involving other technologies. This explains the need to improve today's color system limits (PAL-SECAM-NTSC), which do not allow the use of the entire resolution, which is theoretically possible, in luminance channel, and which cause interference between luminance and color information. These inconveniences can be reduced thanks to new digital processing receiver techniques.

However, only a broadcasting standard change can produce a radical improvement.

It is difficult to improve television quality in the technical sense of the term through earthbound networks.

The opportunity of satellite direct broadcasting pushed European television bodies, including RAI, to elaborate a new system called MAC (multiplexed Analogue Components), which allows the separation of luminance from color, avoiding their interferences and obtaining better image resolution. The MAC system, proposed by UER as a European standard for satellite broadcasting, adds to video improvements the possibility of digital broadcasting (that is, with compact disk quality) of several audio channels; this is one of the ways to achieve multilingual television.

MAC's potential could also cover additional data communication services, such as Televideo.

More advanced solutions of MAC--MAC-C and MAC D2--have troubled the electronic and broadcasting industry for some time. Each European country does not agree on one of the two standards and often broadcasters disagree with manufacturers.

The most widespread disagreement concerns the maximum number of audio channels associated with the video one: 8 for MAC-C and 4 for MAC-D2.

Actually things are not so simple and are influenced by mutual interests, short and long term market perspectives, and non-European competition.

High Definition: HDTV

Finally, MAC is not the peak of the process for improvement of new TV systems since it applies the same scanning method of traditional systems.

Besides MAC, technology (see the Japanese one) proposes HDTV, (High Definition Television), which is characterized by almost twice the number of scanning lines and, as a consequence, by a higher resolution.

This standard is being carefully examined by the RAI Research Center in Turin, as it allows a panoramic image (ratio 5:3 instead of 4:3 of existing television) which gives a cinematic effect on the large HDTV screens.

RAI has already produced two experimental HD prototypes: the former, "Arlecchino" Montaldo, was presented in 1983 and the latter "Oniricon" by Enzo Tarquini, in 1985.

DBS broadcasting, together with improved receiving video, integrated with more audio channels and additional data, is destined to push that "multifunction television" which, already present in many houses thanks to the integration of HF, videorecorders, home computers, and so on, will keep its window open on the world and will give the illusion of being in the control room, at least sometimes.

8612/12859
CSO: 5500/M609

BRIEFS

SIEMENS-GTE JOINT VENTURE--Siemens and the U.S.-based telephone company GTE will be developing, producing and marketing public telephone exchange and transmission technology within the framework of a joint venture. The new company organization and the participation conditions will be determined in the course of the year. [Text] [Stuttgart ELEKTRONIK INFORMATIONEN in German Mar 86 p 32]

5500/ 2662-p

BRITISH FIRM TO DELIVER COMPUTERIZED TELECOMMUNICATIONS GEAR

Copenhagen BERLINGSKE TIDENDE in Danish 22 Apr 86 Sect III p 18

[Article by Thomas Larsen: "Multi-Million Kroner Contract for English Electronics for Telecommunications Companies"]

[Text] The English electronics firm, Micro Scope, is to deliver second generation telecommunications equipment to the Danish telecommunications administration. A multi-million kroner contract for delivering advanced computers just has been signed by KTAS on behalf of the domestic telecommunications firms. Several orders are to follow.

Electronic equipment worth 400,000 English pounds--about 5 million Danish kroner--is to be delivered to the domestic telecommunications firms within the next year.

The contract involves computers which are to be used for expanding Danish telecommunication traffic. The transmission time for sending data within Denmark will be cut in half. Later, a new data center will make possible direct connections with other countries. When the system is ready, it will be able to be used, among others, by banks, information services and data centers.

The many English pounds for the English firm of Micro Scope initially will be used for eight computers which will be placed in various places around the country. By means of the computers, it will be possible to quickly access the central data station. Later, it will be possible via the computer to call up other countries. Additionally, the eight computers will enable the overall telecommunications system to operate more rapidly and more flexibly. Shortly, there will be the possibility for electronic mail, enabling information to be sent over national boundaries--according to officials from the telecommunications directorate.

If the ambitious plans become a reality, additional large expenditures can be anticipated by the telecommunications administration: in all likelihood, additional computers will be ordered from England within a short time. At the same time, a central data station is to be established. It is not yet certain who will deliver the station.

Great English Victory

It was two happy Englishmen--Paul Shimell and Chris Sealy--who yesterday celebrated KTAS having signed the multi-million kroner contract. From the 25th floor of the SAS hotel, the two Titans could look forward to additional deliveries--which will not be small. In just seven years, they have promoted their company, Micro Scope, in European markets as well as in New Zealand and Australia.

In Norway, computers are being installed for the national telecommunications companies. And now eyes are being focused on the Danish market: if everything proceeds according to plan, the Danish telecommunications systems soon can be coupled together with the German systems.

"Electronic highways will be open for multinational companies as well as for small Danish firms. Not the least for a country of Denmark's size, it is important that communications between firms can occur quickly and effectively," one of the two directors, Chris Sealy, told BERLINGSKE TIDENDE.

The computer was developed less than two years ago. "Videotex access points" --as the computer or access points are called--will be tested soon by the Danish telecommunications companies. Now that the contract has been signed, the electronics will be delivered to Denmark and be ready for use within a year. In a related program, Danish engineers will be trained in the systems by experts from Micro Scope.

12578
CSO: 5500/2659

DENMARK

'WORLD'S MOST ADVANCED' BUSINESS TELEPHONE BY GN TELEMATIC

Copenhagen BERLINGSKE TIDENDE in Danish 24 Apr 86 p 12

[Article by Sv. Aa. Jensen: "Talking Telephone Available"]

[Text] A talking telephone--which is called the world's most advanced--costs 4,975 kroner and is particularly well-suited for leaders of large companies and for the smaller private businessman who can carry on a conversation without stopping work. With danMark 3, one need not have an unlisted telephone number.

The telephone--which can talk, receive messages, give out information when the owner is on another line, and which one can call to from a bar to hear who has called and what they have said--is now on the market.

It is called danMark 3, costs 4,975 kroner with value-added tax, and will be a good and usable gift for directors in big firms or for the smaller private businessman who cannot afford a secretary. DanMark 3 can manage secretarial functions to a great extent. An automobile painter who is busy spraying a car need not stop working, and can just set the apparatus to perform all these functions without the receiver being lifted.

With a danMark 3, one need not have an unlisted number. If one wants to be disturbed on a day at home by only certain people, one need only give them a code. Upon reaching the machine, a caller will be put through only if he knows this code--which the telephone's artificial voice, that of a woman, asks for three times. Otherwise, the connection will be broken without the telephone having made a sound.

DanMark 3 also has the capability of looking up and giving out telephone numbers to those who have called. It has a digital clock so that the automatic answerer can be activated at a particular time, an automatic memory which can store 29 numbers, and it has an excellent tape recorder and an adapter module for future advanced electronic equipment--and of course, the capabilities which already are found in danMark 1 and 2.

The new apparatus, which is twice the width of the two earlier models, has taken GN Telematics' technical staff 30 months and 10 million kroner to create. A year-and-a-half ago, the first of the models were presented, but they had many small problems which needed to be corrected and only now has danMark 3 been thoroughly tested and made available.

GN Telematic calls it the world's most advanced telephone and large exports are expected, primarily to the United States, England and Holland. DanMark 3 also can be rented. This costs 2,100 kroner by way of an advance payment and 330 kroner per quarter.

12578
CSO: 5500/2659

FRENCH RPR PROPOSES ALTERNATIVE TELECOMMUNICATIONS PLAN

Paris ZERO UN INFORMATIQUE in French 10 Feb 86 p 3

[Article signed by E.L.: The Future of Telecommunications According to the Opposition"; first paragraph is ZERO UN INFORMATIQUE HEBDO introduction; quotation marks as published]

[Text] The creation of a national telecommunications company and an arrangement for competition in providing basic (telephone) and value-added services, under the surveillance of a National Commission for Communications and Freedom [CNCL], are on the program.

Last Wednesday Jacques Toubon, general secretary of the RPR [Rally for the Republic], presented to the press the summary of the "Tomorrow's Communications" report drawn up under Elie Crespi. This report and program derived from it conform on all points to the guidelines established while drafting the opposition's platform, according to Jacques Toubon. It not only provides a framework for changes that the parties of the political right want in the field of audiovisual communications (privatization of two public service channels, review of the leasing contracts for channel 5 and channel 6, dismantling of Havas, etc.), but the report also provides a first sketch of how the telecommunications program landscape would look in the case of a March victory for the opposition.

"The creation of a national telecommunications company capable of investing liberally and of defending French interests in rapidly expanding markets and the introduction of competition for telecommunications services are the crux of a thorough reform that is necessary in view of technological evolution and international competition. Given its scope, this evolution is bound to be progressive."

"The Opening of All Services, Telephone Included..."

So much for the principles. Now for the concrete:

"Between the status quo, continuation of which seems unlikely, and a dismembering harmful to users, the evolution of the DGT [General Directorate of Telecommunications] should be directed by four principles (the two final principles being to give industrialists and the DGT initiative and freedom of action in the areas where they have proven their competence by freeing them from pointless restraints and to allow new players to step in whenever lasting defficiencies appear and market conditions demand it.

"The DGT telecommunications monopoly should thus apply only to the construction and the operation of telecommunications networks and exclude services so that other operators may supply all services including telephone.

To extend the monopoly to basic telephone service would be increasingly senseless because of the digital multiplexing of most of the services (Editor's note: RTC [Telephone Switching Network] 64 Kb/s) on the same channels which renders the information conveyed indiscernible.

Deregulation of the telephone service will provide an element of added dynamism since this service will continue to represent 90 percent of the telecommunications turnover in the forseeable future.

"To play its new role entirely, the DGT could acquire the status of a national company with public capital, the National Telecommunications Company [SNT]. Under the aegis of the CNCL (see below), the SNT will be able to take part in value-added services in a spirit of fair competition and through subsidiaries, particularly Transpac, Telesystemes, or France Cables Radio, which will remain its property."

"Thus, the SNT will be much better armed to face competition in international data transmissions where foreign companies are placing ever increasing pressure on the French firms."

A case in point is the opening of services sought by IBM, among others, with great fanfare. In this connection the data processing giant recommended the foundation of a watchdog body like the FCC to "guarantee a spirit of fair competition."

There again IBM got what it wanted (with, of course, the obligatory "ifs").

The opposition proposes, in effect, the creation of a national committee for communications and freedom, i.e., an independent organization that would replace the present High Authority for Audiovisual Communications, but with expanded authority: "Within the framework provided by the law and in accordance with its principles, the CNCL will provide authorization to use hertzian frequencies....

"It will also provide authorization for telecasting and, in a very broad sense, for all communications services (interactive videotext, satellite, radiotelephony, etc.)." It will thus grant licences for value-added telecommunications services and will assure that the SNT is just another competitor in the service area. The members of the CNCL will probably be appointed by the political authorities who will select them from lists proposed by independent organizations.

25025/12948
CSO: 5500/A011

BRIEFS

ARIANE WINS JAPANESE CONTRACT--Europe has taken a stake in the Japanese market for space launches with the award of a contract to the French-led Ariane rocket to place in orbit two Japanese telecommunications satellites in 1988. The order, announced yesterday, gives Arianespace, the company commercialising Ariane flights, a conspicuous success in competition with the US over satellite launches. Arianespace has been mounting additional efforts this year to win launch contracts for 1987/1988 to capitalize on the problems of the accident-prone US space programme. However, the string of spectacular US space failures--in which the latest incident was Saturday's destruction of an unmanned Delta rocket--has also raised problems for Arianespace by increasing nervousness about commercial space prospects and pushing up launch insurance premiums. Under yesterday's contract, the new Ariane-IV rocket will launch two Japanese Space Communications Corporation satellites. [Frankfurt/Main FINANCIAL TIMES in English 7 May 86 p 10] /13104

CSO: 5500/2668

ITALY

BRIEFS

JOINT VENTURE WITH JAPAN--Italy and Japan have signed a comprehensive agreement for joint development of telecommunications products in the field of integrated circuits. The agreement for cooperation in the field of telecommunications integrated circuits was signed by the Italian SGS company, which is a world leader in microelectronics techonology, and the Japanese Toshiba company. According to this agreement, which will lead to joint production of telecommunications products, the SGS company in a first stage will grant the Japanese firm "second source" rights of production for three telecommunications products on a very large scale of integration. The devices produced by the Toshiba company under SGS license will be the PCM coder with a single M5913 chip, modem M9910, and communications matrix PCM M088, between them capable of connecting up to 256 telephone users. Products M5913 and M9910, that represent developments in already existing products, are completely compatible with present industrial standards, and communications matrix M088, if compared with similar devices, offers easier expansion to more complex communications networks. The agreement provides for the SGS company to supply the Japanese company with some diffusion masks, as well as pertinent technical information. For its part, the Agrate firm is considering the possibility of future agreements for second source Toshiba telecommunications products. It is expected that these products will be produced and sold independently by the two firms. In a second phase, the agreement provides also for the development, separately or jointly, of complementary products, in particular in the field of commutation and transmission. This cooperation entails a mutual access to new products to be exchanged under license. [Text] [Milan TECNICHE DELL'AUTOMAZIONE & ROBOTICA in Italian 2 Feb 86 p 26] 8255

CSO: 5500/2649

END

JPRS-TTP-86-015

10 JUNE 1986

Worldwide Report

TELECOMMUNICATIONS POLICY, RESEARCH, AND DEVELOPMENT

FBIS FOREIGN BROADCAST INFORMATION SERVICE

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10 JUNE 1986

WORLDWIDE REPORT

TELECOMMUNICATIONS POLICY, RESEARCH AND DEVELOPMENT

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CANADA

GOVERNMENT PLANS TO PRIVATIZE TELEGLOBE STALLED

Toronto THE GLOBE AND MAIL in English 29 Apr 86 p B4

[Article by Christopher Waddell]

[Text] The federal Government's plans to privatize Teleglobe Canada are stalled, pending decisions on telecommunications policy that have been before the Cabinet for the past month.

Proposals under consideration by the Cabinet would establish the ground rules for the final round of bidding for the Crown-owned company, which is responsible for international telephone and telecommunications traffic to and from Canada.

Possible buyers include Telecom Canada, a consortium of the country's telephone companies led by Bell Canada; CNCP Telecommunications; Power Corp. of Canada; British Telecom; and Canada Pensions Group, which represents a group of pension funds.

Decisions on whether the various bidders remain interested and how much they are prepared to pay will depend on the policy that emerges from the Cabinet.

Following the final submission of bids, the Government will analyze the offers and choose a winner — a process that could take several months, pushing privatization at least into the fall.

A central element of the Teleglobe sale has been a debate between the departments of Regional Industrial Expansion and Communications.

DRIE — the department responsible for Teleglobe through its control of the parent corporation, Canada Development Investment Corp. — has been the prime mover, anxious to complete the sale as soon as possible. DOC officials, however, have argued that all policy questions relating to telecommunications must be determined before the sale can proceed.

For the moment, it appears the Communications Department has triumphed.

The Cabinet is now considering several issues, each of which will have a large impact on Teleglobe's price tag.

Presently, Teleglobe is the sole agency allowed to transmit and receive telecommunications information beyond North America. This monopoly has helped make the company highly profitable, making $53.2-million last year on revenue of $678.6-million, compared with a profit of $46.1-million from revenue of $591.1-million the year before.

If the new owners of Teleglobe are not guaranteed a monopoly, profits and revenue will both be substantially less than at present.

Further complicating this issue, some customers already find Teleglobe's rates too high and are bypassing it, transmitting information to the United States and then using U.S. systems, which are up to 25 per cent cheaper for transoceanic communications.

No one knows how extensive this is now or might become if Teleglobe's rates go even higher.

To answer the question, the Department of Communications has commissioned a study on bypass problems from an Ottawa consultant. To date, that work has concentrated only on domestic bypass problems — the situation when companies with several offices across the country establish their own telecommunications system, bypassing existing systems by linking their offices together with satellite dishes.

A related problem is the rate base for a privatized Teleglobe, assuming it will still operate under some form of regulation.

With the purchase price likely in the $500-million to $800-million range, any money the Government receives from the sale of Teleglobe in excess of the company's book value of approximately $307-million can be charged directly against the over-all federal deficit in the year the sale occurs.

That creates an obvious incentive to get the highest possible price for the company. But presumably, the higher the purchase price, the higher a privatized Teleglobe must set its rates to allow the new owners to recover their acquisition and related costs. The higher the rates, the more likely users will bypass the system to go through the United States.

The Cabinet must also decide if foreign interests will be allowed to purchase a part share of Teleglobe.

Foreign ownership may be less importance if Teleglobe is denied a monopoly on telecommunications transmission, but the Government is still likely to face pressure in the House of Commons to ensure the buyers are Canadian-owned and controlled.

During the winter, rumors suggested the Government would allow foreign owners to hold a maximum of 20 per cent of Teleglobe and the domestic telephone companies, bidding under the Telecom Canada banner, might be similarly restricted.

If they are held to these limits, both Telecom Canada and British Telecom may decide not to submit final bids for the Crown corporation.

As a final issue, the Quebec Government has been lobbying heavily to ensure that when Teleglobe is privatized, the federal Government will obtain a commitment that the buyer will keep Teleglobe's head office in Montreal. That would preserve jobs and maintain the company's Quebec roots.

/13104
CSO: 5520/79

CANADA

NORTEL BIDS FOR SINGAPORE CONTRACT; QUARTERLY PROFITS DROP

Singapore Digital Switching Contract

Toronto THE GLOBE AND MAIL in English 29 Apr 86 p B20

[Article by Lawrence Surtees]

[Text] The hopes of Northern Telecom Ltd. for increased business in Asia are being tested in a bid against four of its largest global competitors for a $85-million contract in Singapore.

The contract from Singapore's Telecommunications Authority for digital switching equipment used to route subscriber telephone calls was put out to tender in August, 1984.

The initial contract is for equipment for 280,000 telephone lines, and it could be worth twice as much if an option to provide an additional 200,000 lines is granted.

The equipment under this contract will replace analog equipment, and will allow voice, data and video signals to be carried over conventional telephone lines. Singapore plans to spend a total of $2.1-billion in the next five years on digital switching and fibre optic submarine cables to link the island state with other countries in mainland Asia.

Northern Telecom faces tough competition in its quest for the job. Bidding against the telecommunications equipment maker, based in Mississauga, Ont., are: Fujitsu Ltd. of Japan; Standard Elektrik Lorenz AG of West Germany, a unit of ITT Corp. of New York; L. M. Ericsson Telephone Co. Inc. of Sweden; and CIT-Alcatel of France.

A Northern Telecom official said the awarding of the contract has been delayed because of the renegotiation of technical issues. Although a recent report from the Financial Times of London said Fujitsu and ITT are the companies to beat, the official said: "We don't assume, nor do we know if we're out of the running."

Northern Telecom Pacific has its regional headquarters for Southeast Asia in Singapore. Although the company has sold numerous business telephone switches in Singapore, it has extensive operations in nearby Malaysia, including manufacturing plants.

Northern Telecom has targeted Asia as its prime geographic market in which to increase international sales. Revenue from offshore accounted for only 4 per cent, or $241-million, of 1985 revenue of $5.8-billion. A five-year $250-million contract recently awarded by Japan will boost that figure.

However, Singapore has yet to announce the winner of its contract and "to say anything else is pointless speculation," the Northern Telecom official said.

First Quarter Profits

Ottawa THE CITIZEN in English 23 Apr 86 p A11

[Text] TORONTO (CP) — The lustre may be fading from Northern Telecom Ltd., the Canadian wonder company that has been a star in the international telecommunications market for the last decade.

The company's latest earnings report released Monday indicated declines in both revenues and earnings for the first and second quarter of 1986.

But shareholders at the company's annual meeting Tuesday were reminded of Northern Telecom's impressive average annual growth rate of 17 per cent in the last decade (a 24-per-cent average since 1982) and assured that the company will try to maintain its position as an industry leader.

Northern Telecom is the world's leading supplier of fully digital telecommunications systems and a leading supplier of information management systems for the office.

Earlier this year the company announced 240 layoffs in Ottawa and Aylmer effective May 2, and 302 employees were laid off in 1985. The cuts will leave the local division with 603 workers.

Employees have also been laid off in Brampton and London.

President David Vice said the company's aim is renewed growth by year-end.

The company reported a drop in net earnings to $43 million U.S. in the first quarter from $55 million in the first quarter of 1985 and predicted that second-quarter results will also fall short of the corresponding period last year.

(The company, which received 68 per cent of its 1985 revenues from the United States, reports its financial statistics in U.S. dollars.)

Earnings in the first half of 1986 will be more than 20 per cent below the previous forecast, the company's quarterly report said.

But sales and earnings will be strong in the second half so that "results of 1986 should compare favorably with 1985," chairman Edmund Fitzgerald said.

Northern Telecom blamed reduced sales and profit margins in its DMS central office telephone switching system business in the United States for the poorer first-quarter results.

/13104
CSO: 5520/79

CANADA

GANDALF SIGNS AGREEMENT WITH PRC'S NANJING RADIO

Toronto THE GLOBE AND MAIL in English 6 May 86 p B22

[Article by Lawrence Surtees]

[Text] Gandalf Technologies Inc. of Ottawa has signed an agreement with Nanjing Radio Factory, which will begin making some of Gandalf's data communications equipment in Nanjing, China, later this year.

Under the $470,000 agreement, the Chinese factory will manufacture and sell Gandalf modems, multiplexers and interface converters in China. Modems are used to exchange information between computer terminals over standard telephone lines. Multiplexers are used to convert data communication signals to transmittable frequencies.

Gandalf expects the Nanjing factory to begin making its equipment there this fall, said Desmond Cunningham, Gandalf chairman and chief executive officer.

He welcomed the agreement as the start of what he hopes will be a long-term relationship between Gandalf and the Chinese.

The agreement is basically a technology transfer agreement, and Nanjing Radio Factory will be able to exploit the technologies under it on a continual basis. The contract regarding price of components and royalties has a three-year term, said John Wandell, vice-president of sales at Gandalf.

The company hopes the transfer agreement will give Gandalf an edge over its competitors when selling larger systems elsewhere in China, Mr. Wandell said.

For its part, Chinese industry needs to gain increased experience in the manufacture of advanced technology items. And as computers proliferate throughout China and the country slowly begins to modernize its telecommunications system, there is increased pressure to become self-sufficient in the manufacture of data communications hardware.

Nanjing Radio Factory currently employs 5,000 people and makes electronic products for both industrial and consumer markets. Nanjing is situated on the Yangtze River in Jiangsu Province, about 250 kilometres west of the southern port city of Shanghai.

Gandalf's entry into the Chinese market comes at an opportune time as the company faces increased competition in the already crowded North American market. Although Gandalf's revenue is rising steadily, profit growth still lags behind.

For the six months ended Jan. 31, Gandalf had profit of $1.1-million on revenue of $48.6-million, compared with profit of $2.5-million on revenue of $39.2-million a year earlier. For the year ended July 31, 1985, Gandalf had profit of $3.24-million on revenue of $85.8-million, compared with profit of $5-million on revenue of $69.1-million.

Gandalf's offshore business is increasingly outstripping revenue sources in North America. In China, Mr. Cunningham said, he expects Gandalf will play an important role in developing Nanjing Radio Factory's technological expertise, in addition to tapping a growing market. "We see many future opportunities there for us."

/13104
CSO: 5520/79

CANADA

ROGERS TO OFFER CABLE TV, COMPUTER INFORMATION SERVICE

Toronto THE GLOBE AND MAIL in English 24 Apr 86 p B4

[Article by Edward Greenspon]

[Text] Rogers Communications Inc. has finally found a way to arrange the elusive marriage of the century — bringing together cable televison and computers in a new information service.

Rogers' cable-television subscribers in Toronto, Brampton, Ont., and Mississauga, Ont., will soon have instant access to 30 sources of general news, business news, stock market quotations, weather, sports news and entertainment information carried into personal computers over existing cable, said William Rogers, vice-president of Canadian operations.

The information originates with Associated Press, Canadian Press, Standard & Poor's, SportsTicker and the Soviet news agency Tass. It is sent to Rogers via satellite by a company in Boulder, Colo., called X*PRESS Information Services.

Jack Klinge, vice-president of sales for X*PRESS, said the service is not a data base, which subscribers can telephone for historical information. Instead, it provides a constant, 24-hour-a-day stream of current information, a total of 10 million words a day.

Toronto-based Rogers will charge $24.95 a month for the service and a $59.95 installation fee. There will be no additional user fees or access fees.

Mr. Rogers said the service is not for everybody, but will be of particular value to the financial community. At his company's behest, X*PRESS has added listings of the Toronto, Montreal, Vancouver and Calgary stock exchanges to the flow of information available to subscribers.

"Our (sales) objectives in the Toronto area are not in the hundreds of thousands, but certainly in the thousands," he said.

Rogers was first licenced to carry this type of service in the late seventies and has been looking for a source of information ever since, he said.

To help market the new service, Rogers is teaming up with Computerland, the largest chain of computer stores in the country, owned by Computer Innovations Distribution Inc. of Mississauga.

Computerland will offer a discounted package price to consumers buying both personal computers and a subscription to the service.

The service is compatible with IBM computers or clones, the Apple IIc and IIe and the Commodore 64 or 128.

In accessing the data, subscribers must pick and choose between a variety of information categories. They also can program their computers to find particular subjects by providing key words. Somebody interested in the paper industry, for instance, could have the service print a copy of all stories with the words pulp and paper in them.

This effectively provides business users with an instant clipping service, said Paul Temple, director of product development at Rogers. "You can monitor your competitor."

There is little cost to Rogers of introducing the service, so it won't "be yanked off in a year if we don't get subscribers," he said.

As Canada's largest cable company, Rogers is hoping to learn from the service as part of its efforts to diversify the uses of cable television, company officials said. They plan to offer the service on their Vancouver cable system next.

Aside from marketing, the key to the service's success seems to be the viability of X*PRESS. Mr. Klinge said the company went on to its first system in February and currently has 500 to 600 subscribers on 38 systems in the United States. Another 40 systems are scheduled for launch before July 1, he said. He expects penetration levels to be higher in Canada, where downtown business areas tend to have cable television installations.

Rogers officials note that X*PRESS is a partnership between three major U.S. communications companies — McGraw-Hill Inc., Tele-Communications Inc. and Telecrafter Corp.

/13104
CSO: 5520/79

CANADA

BRIEFS

SPAR, ZAMBIAN CONTRACT—Spar Aerospace, Ltd. of Toronto has received a $10.5-million contract from the Canadian International Development Agency to build a satellite ground station in Zambia. Spar officials said the new 18-metre dish antenna is one of the first in the world to meet a new standard set by the International Telecommunications Satellite Organization. Intelsat operates a global network of communication satellites accessible by more than 160 countries. The project is part of a larger CIDA program to help countries in southern Africa build independent telecommunications links, thereby eliminating the routing of telephone calls through the Republic of South Africa. [Text] [Toronto THE GLOBE AND MAIL in English 24 Apr 86 p B17] /13104

CSO: 5520/79

BRIEFS

RADIO ACCORD WITH IRAQ--An agreement between the State Committee for Radio at the GDR Council of Ministers and the Radio and Television Organization of the Republic of Iraq on cooperation in the field of radio service was concluded in Berlin. It continues the contractual relations that have existed since 1967 and envisages extended program exchanges and the promotion of cooperation in the advanced training of journalists. [Text] [East Berlin NEUES DEUTSCHLAND in German 8-9 Mar 86 p 2] /9604

GDR-CYPRUS TV AGREEMENT--Nicosia (ADN)--On Wednesday [19 March] the State Committee for Television attached to the GDR Council of Ministers and the Cyprus Broadcasting Corporation concluded in Nicosia an agreement in the field of television. In addition to intensifying mutual topical coverage, it particularly provides for improving the exchange of experiences. [Text] [East Berlin NEUES DEUTSCHLAND in German 20 Mar 86 p 2] /9604

GDR-CAMEROON TELECOMMUNICATIONS COOPERATION--East Berlin (ADN)--On Wednesday [19 March] Rudolph Schulze, deputy chairman of the Council of Ministers and minister of posts and telecommunications, received Claude Leonard Npouma, minister of posts and telecommunications of the United Republic of Cameroon, for a talk. They mainly discussed questions of safeguarding and preserving peace as well as of further developing cooperation in the field of posts and telecommunications. [Text] [East Berlin NEUES DEUTSCHLAND in German 20 Mar 86 p 2] /9604

CSO: 5500/3009

INTER-AMERICAN AFFAIRS

CARIBBEAN TV CHANGES WORRY ST VINCENT GOVERNMENT

St Vincent's Concerns

Bridgetown DAILY NATION in English 24 Apr 86 p 28

[Text] CBC-TV is caught in a dispute over its intended use of Channel 9.

The Caribbean Broadcasting Corporation station is in the row with St. Vincent and the Grenadines Television which has been using the channel before. And, according to reports, it could all see the governments of the countries of both stations being directly involved. Caribbean Broadcasting Corporation (CBC) in Barbados over the use of channel nine.

The dispute is a direct result of a CBC-TV plan to improve its television programming through the introduction of of new services on various channels, one of them being Channel 9.

A source at the Government-owned television station in St. Vincent said the concern was that CBC-TV planned to switch from Channel 3 to Channel 9 which has been used by SVG-TV for over ten years.

"The matter is a very simple one; but yet it is one that could create problems for us. We have been transmitting on Channel 9 from our inception more than ten years ago.

"Last year we were informed CBC-TV was planning to halt transmission on Channel 3 and switch to Channel 9. They were planning to use two five-kilowatt transmitters in plural, which are certain to over-ride our signal to the Grenadines, and could also over-ride our trasmission in St. Vincent itself.

"We only use a single 100-watt transmitter which is no match for what CBC-TV is planning to use."

The St. Vincent television official understands the CBC-TV transmitters were already in Barbados and should soon be pressed into service.

He claims that since both stations were members of the Caribbean Broadcasting Ulnion (CBU), CBC-TV was aware St. Vincent operated on Channels 7, 9 and 11, and if CBC-TV "wants to go to a higher VHF band, Channels 8, 10 and 12 were available".

St. Vincent's television authorities said yesterday they had written to secretary-general of the CBU, Mike Rudder, on February 21, last year, and Rudder had since written to CBC's general manager, Duncan Turney, copying the letter to the permanent secretary in the Ministry of Information as well as to SVG-TV.

Efforts to reach Rudder were unsuccessful, since he was attending a conference in Geneva. An officer of the union confirmed the CBU had received a letter from St. Vincent, that a letter was sent to the CBC general manager, but that so far no response had been received. The officer said, though, that since more than six months had passed since the letter from the CBU, the CBU was no longer expecting a response.

Repeated efforts to contact Turney were unsuccessful, but CBC's public relations officer, Victor Hinkson, said the official position of CBC was that there was no comment to make.

The television official in St. Vincent says his country's government is preparing a letter to send to the Barbados Government seeking clarification on the matter.

CBC Reassurances

Bridgetown SUNDAY SUN in English 27 Apr 86 p 48

[Text]

THE CARIBBEAN BROADCASTING CORPORATION (CBC) has stated that it has no intentions of causing interference to St. Vincent and the Grenadines Television (SVG TV) and is primarily concerned with upgrading its service to Barbadians.

This statement comes from the state-owned corporation following a report in last Thursday's NATION that the two stations were caught in a dispute over CBC's proposed use of Channel Nine, which has been used by SVG-TV for over ten years.

St. Vincent reportedly feared that the more powerful transmitters of the Barbadian station might over-ride its internal signals and those to the Grenadines.

"It is unlikely that CBC will cause deliberate interference to St. Vincent and the Grenadines Television on its proposed Channel Nine, since the signals will not be beamed to St. Vincent and the Grenadines as is presently the case with Channel Three," CBC said.

It said the corporation would be willing to work closely with SVG-TV to address any problems that may arise.

The corporation is trying to upgrade its services in Barbados and is replacing old low-band television transmitters at Sturges, St. Thomas, with new high-band transmitters.

The corporation said the reasons for switching to the higher band system are:

- To reduce powerline interferences and industrial noise now associated with Channel Three.
- To obviate co-channel interference from South American stations now being experienced.
- To facilitate installation of an additional antenna for the proposed subcription television service.
- To reduce energy consumption by using more energy efficient transmitters.

/9317
CSO: 5540/068

INTER-AMERICAN AFFAIRS

TECHNOLOGY ON AIRWAVES THREATENS CARIBBEAN STABILITY

Bridgetown DAILY NATION in English 16 Apr 86 p 24

[Text]

THE DRAMATIC INVASION of Caribbean airwaves through technology, has to be viewed as a threat to the region's political stability.

This was stated by president of the Caribbean Publishing and Broadcasting Association (CPBA), Harold Hoyte, at the closing ceremony last Sunday of a four-day Press seminar held by Bustamante Institute of Public and International Relations.

Hoyte said the "unregulated flow" of news was posing a threat to regional culture.

He told journalists from Trinidad, Guyana and Barbados the media had a special role to defend the cultural and political sovereignty of the region.

He said: "I think it is the business of the CPBA and all those involved in the communications business, not only because it is a threat to the survival of our own indigenous systems, but a threat to our people.

"It is our business because of the critical link between communication and social, cultural, political and economic activity."

Hoyte said the situation presented a challenge to the survival of locally created television, but more important "is what it will do to our people's minds".

"In the war of ideas, there isn't room for our own ideas if our people's time is going to be so dominated by these American networks. And if our time is dominated by what is important to other people, it will only be a matter of time before what is really important to us is forgotten."

He said more people in the region knew about Baby Fay last year than they knew which prime ministers went to the Mustique meeting.

Hoyte noted there was nothing wrong per se with watching well-produced television programmes but what was wrong was that nothing else was watched in most territories.

"The cultural implications are multi-dimensional," he said. "The strong influence has led commentators to wonder what will become of poorer countries which become victims of this leisure culture as it is called.

/9317
CSO: 5540/068

ARCHER ON POSITIVE RESULTS OF INFORMATICS LAW

Sao Paulo O ESTADO DE SAO PAULO in Portuguese 12 Apr 86 p 28

[Text] According to Science and Technology Minister Renato Archer, the project for regulating the legal ownership and marketing of software (computer program) should be defined at the next meeting of the National Informatics Council (CNI) on 8 May. In an interview yesterday at RBN, Archer said that "the country cannot import software as it imports automobile projects and that therefore the sector needs to be regulated."

The minister said that the Informatics Law, which the United States regards as protectionist, has enabled the Brazilian market to grow. According to him, in 1977 the country had nine firms (three of them Brazilian) and the market amounted to $200 million. Last year, Archer reported, there were already 276 Brazilian companies, covering 56 percent of the $2.3 billion market. And what is more, 28,000 jobs had been created. Aside from Brazil, only three other countries have 50 percent or more of their data processing market within their territory--the United States, Japan and Germany.

Thus the provisions have benefited the country, Archer added, "because data processing is a basic tool we need to be able to compete with developed countries in industrial and agricultural production and in education."

Pressure

With regard to United States' pressure on the Brazilian data processing industry, Archer said that it was "completely unjustified." He added: "We have a type of market restrictions that is designed to protect the interests of foreign firms, such as in the case of the automobile industry. We started an automobile industry 40 years ago with foreign companies. We have afforded them market protection, and not for 8 years, as the Informatics Law established for companies in that sector, but for 40 years they have remained untouched. The result is that we have an automobile industry that works, but with one feature that it is important to bear in mind: Brazil pays royalties on the automobile models it manufactures, because Brazil has not designed these cars."

"We do not want the same thing to happen in the data processing sector," Archer argued. "Without data processing, the country cannot further its development in any sector. We needed experts here capable of making our own computers and our own software, and of solving our specific problems." He concluded by saying: "A computer program cannot be imported in the same way as a truck or an automobile."

9805/12851
CSO: 5500/2039

GOVERNMENT NOT TO CHANGE INFORMATICS POLICY

Sarney Defends 'Sovereign Decision'

PY161848 Brasilia Radio Nacional da Amazonia Network in Portuguese 1000 GMT 16 May 86

[Text] Despite the U.S. Government's threat to enforce commercial retaliatory measures against Brazil, the Brazilian Government will not change its informatics policy. President Sarney has clearly expressed his opinion on this matter, saying that this is a sovereign decision that cannot be changed just because of foreign pressure.

The United States has no right to adopt retaliatory measures against Brazilian exports if the Brazilian Government refuses to repeat the measures that restrict the import of informatics equipment in Brazil. This was said yesterday at the Foreign Ministry by Pablo Noguera Batista the Brazilian ambassador to Geneva and Swiss-based international organizations. He was commenting on U.S. press reports which stated that the United States may take retaliatory measures against Brazilian trade before September.

The ambassador's statement confirms the Brazilian Government's decision to continue enforcing market restrictions on sales of imported micro and mini-computers, which allows foreign participation only through the import of foreign-made software. The Brazilian diplomat said that if the United States adopts retaliatory measures against Brazil, these will have to be approved by GATT and not merely by the U.S. Congress. The ambassador also explained that GATT includes provisions that allow its members to adopt trade restriction measures to protect new industries. The U.S. Government itself adopted restrictive measures to protect its informatics market for 5 years, while Brazil has enforced similar measures on other sectors, including the car industry.

As for international relations, Brazil does not violate any that may affect its informatics law. If the United STates decides to suspend or decrease Brazilian imports, Brazil may answer this decision by opening the Brazilian car market to the Japanese or by imposing new taxes on foreign films. Brazil's reaction depends on the U.S. Government's officiel position regarding the issue.

Bill To Counter U.S. Sanctions

PY171921 Brasilia Radio Nacional da Amazonia Network in Portuguese 1000 GMT 17 May 86

[Text] Senator Severo Gomes of the Brazilian Democratic Mobilization Party [PMDB], Sao Paulo State, has submitted a bill which seeks to impose economic sanctions on those countries restricting imports of Brazilian products. The bill was prompted by reports on U.S. measures restricting imports of some Brazilian products because of the computer market reserve established by the Brazilian informatics law.

Here are highlights of the measures proposed by Senator Gomes: Prohibit participation in any association or organization (?recognized) by the federal government, states, or municipalities; prohibit the sending of foreign currency abroad, representing profits, salaries, interest, amortization and so forth. [sentence as heard] The bill proposes that such profits be kept in the country as long as restrictions are imposed on Brazilian goods and services.

Brazilian and U.S. diplomats believe the pressures on the Brazilian informatics law are politically motivated and directly linked to the elections slated for this year in both countries. The Brazilian Foreign Ministry has stated that the Brazilian Government will request that the U.S. Government explain these press reports.

Science and Technology Minister Renato Archer has said that there is great confusion stemming from contradicting press reports concerning deadlines for amending the Brazilian informatics law.

/9274
CSO: 5500/2046

BRAZIL

TALKS ON INCREASED COOPERATION WITH ITALY HELD

Rio de Janeiro O GLOBO in Portuguese 2 Apr 86 p 7

[Excerpt] Italian Telecommunications Minister Antonio Gava said yesterday that his country intends to operate in the communications sector in Latin America and the negotiations between Brazil and Italy would open the door for future transactions. Gava praised the efforts the Brazilian government has been making to bring inflation down to tolerable levels.

According to the Italian minister, an inflationary index of 250 percent hampers relations with other countries interested in conducting trade negotiations. An economic policy designed to reduce inflation is, in Gava's view, certain to engender the interest of other countries in Brazil.

He met yesterday with Brazilian Communications Minister Antonio Carlos Magalhaes to look at the results and prospects for furthering technical cooperation and technology transfers between the two countries in the field of communications. The ministers took note of the success of the cooperative programs between Telebras and Stet, the Italian government holding company.

Antonio Carlos suggested to the Italian minister that the technical cooperation agreement be renewed and Gava indicated that his government was prepared to transfer to Brazil all the experience it had acquired in digitizing the domestic telecommunications network. The Italian minister acknowledged that the satellite communications system, which Brazil reinforced with last Friday's launching of Brasilsat 2, opens up new fields of cooperation between the two countries.

The Italian and Brazilian ministers took note of management agreements which are being designed or have already been worked out to provide for joint undertakings in important, high-technology sectors. They further noted that private Italian groups were still conducting investigations in the telecommunications sector.

The following also participated in the ceremony at the Communications Ministry: Italian Ambassador Vieri Traxler; Ambassador Paulo Tarso Flexa de Lima, secretary-general of the Ministry of Foreign Affairs; Romulo Furtado, secretary-general of the Ministry of Communications; leaders in the telecommunications sector from the Italian and Brazilian governments; and, the vice president of Rede Globo, Roberto Irineu Marinho.

Stepped-up cooperation between Brazil and Italy, primarily in the communications sector, is what Italian Minister Antonio Gava and Brazilian Chancellor Abreu Sodre would like to see, and yesterday they held talks for over 30 minutes on the agreements signed between the two countries.

9805/12851
CSO: 5500/2039

BRAZIL

BRIEFS

CHINA-BRAZIL ACCORD--EMBRATEL will be representing the Chinese Ministry of Posts and Telecommunications at the International Telecommunications Satellite Organization, an international consortium which manages use of the Intelsat satellite. The agreement was signed this week by EMBRATEL President Pedro Jorge Castelo Branco Sampaio and the director of foreign affairs of the People's Republic of China, Zhao Xintong, on the same terms as the others concluded with the National Telecommunications Administration of Uruguay and the Portuguese Radio Marconi company. [Text] [Sao Paulo O ESTADO DE SAO PAULO in Portuguese 15 Apr 86 p 24] 9805/12851

CSO: 5500/2039

SATELLITE ACCESS TO SCIENTIFIC DATA IN USSR, BULGARIA

Havana GRANMA in Spanish 1 Apr 86 p 3

[Article by Orfilio Pelaez]

[Text] One of the main accomplishments of the Scientific and Technical Documentation and Information Institute (INDICT) of the Cuban Academy of Sciencies during the 1981-85 5-year period was undoubtedly laying the groundwork for the use of satellites to obtain access to data bases.

The need for quick access to world information banks led to the initiation of these projects at IDICT in January 1983, as part of the effort to improve the National System of Scientific and Technical Information. In the beginning, the CEMA International Scientific and Technical Information Center lent assistance.

In June 1983, a pact was signed between the Cuban Academy of Sciences and the State Committee on Science and Technology of the USSR. According to this agreement, which governed satellite access to data, the USSR was to provide the necessary equipment for the establishment of a terminal station in Cuba for this purpose.

Later a satellite communication channel was established between Havana and Moscow, and the first demonstrations of satellite access were made from the Palace of Conventions in December 1983, during the session of the National Assembly.

In 1984 the number of hours of access to NODO (the head of the system) each week began to rise. NODO is operated by the Institute of Automated Information Systems of the Soviet State Committee on Science and Technology.

At present, we have connections with Soviet and Bulgarian data banks, enabling us to consult 1.25 million references of scientific documents from various countries.

This year connections are scheduled to be made with data banks in Hungary, Czechoslovakia and Sweden, which will broaden our access to world data resources.

Furthermore, a Soviet EC-1035 computer is being installed now. It will serve as a data base distribution center for the national scientific and technical information system.

This entire system of satellite data access is part of the project to create the National Science and Technology Library, which will use this method to receive information from the principal scientific centers of the world.

8926
CSO: 5500/2042

ERICSSON WINS CONTRACT FOR DIGITAL PHONE EXCHANGES

Stockholm SVENSKA DAGBLADET in Swedish 24 Apr 86

[Article by SVENSKA DAGBLADET]

[Text] Ericsson has received an order worth well over 1.3 billion kroner from Mexico. The order concerns delivery of digital phone exchanges and other telecommunications equipment for the country's telephone administration.

The order concerns primarily equipment in conjunction with Mexico's development of its telephone network in 1987 but also comprises four digital AXE phone exchanges. The AXE phone exchanges constitute part of the reconstruction program following last year's earthquake.

The largest order concerns a turnkey contract for digital AXE phone exchanges for local and transit communications and a number of computerized operational and maintenance exchanges of the AOM type. The exchanges, which are scheduled for delivery in the course of 1987, correspond to a total of 230,000 phone lines.

Another order concerns analog phone exchanges and digital and analog transmission equipment. The major part of this equipment will be produced by Ericsson's Mexican subsidiary, Teleindustria Ericsson S.A.

7262
CSO: 5500/2669

STATE-OWNED TV, TEXTEL IN LICENSE DISPUTE OVER DISH

TTT Satellite Plans

FL022335 Bridgetown CANA in English 2318 GMT 2 May 86

[Text] Port of Spain, 2 May (CANA)--Trinidad and Tobago External Telecommunications Company (Textel) stands to lose 1.2 million dollars (one TT dollar, 27.7 cents U.S.) as a result of plans by state-owned television station, TTT, to erect a satellite dish in its backyard, a press report said today.

The EVENING SUN newspaper quoted a TTT source as saying that the station is spending 1.5 million dollars to install the dish, which will allow it to receive programmes directly from abroad.

When the dish is erected, the source said, TTT would save the 100,000 dollars it spends a month to transmit programmes through Textel--an expected 1.2 million dollar saving for the station but, at the same time, a loss for Textel.

In the past, the SUN said, TTT worked under a license which allowed Textel the sole right to receive and transmit internal telecommunications. If the report is true, TTT is infringing on our rights, the SUN quoted Textel's general manager, Lennox Worrell, as saying.

Licensing Considerations

Port-of-Spain TRINIDAD GUARDIAN in English 3 May 86 p 1

[Text] Officials of State-owned Trinidad and Tobago Television (TTT) have refused to comment on problems brewing in connection with its planned erection of a satellite dish system.

General Manager of TTT, John Barsotti, gave a firm "No Comment" yesterday when asked about the satellite dish and any breach of licence which the company may be committing by erecting the system.

It is understood that excavation work for erection of the satellite dish is currently being carried out at the station's Maraval Road premises. One estimate of the approximate overall cost has been set at $1.5 million.

Sole Textel Right

However, Textel officials have indicated that TTT's plan to have a satellite would be a breach of the licence under which it operates. This licence gives Textel the sole right to receive and transmit telecommunications.

A TTT source said yesterday that while the station is indeed in the process of setting up a satellite, no one was aware that there was a problem with Textel.

Still, regarding the alleged problems, a source from the Ministry of Public Utilities pointed out that the State-owned utilities and enterprises have been reminded to continue cost-cutting wherever possible by not duplicating equipment.

"Some sectors have been duplicating equipment, installing types that other State enterprises have, all at costs which the consumer has to pay. We are hoping that this will be avoided wherever possible," the source said.

/9274
CSO: 5540/069

TURKS AND CAICOS

BRIEFS

PRIVATIZATION OF BROADCASTING--An announcement by Chief Minister Nathaniel Francis during the budget session that the Broadcasting media is to be privatised has been reflected in the estimated expenditure for this establishment, where financial provision has been made for only three months in keeping with a decision to privatise by June 30. Subsequently, a sum of only $34,536 has been ear-marked for this establishment as against $121,972 actually released last year, and for this year a total of $16,600 has been provided for salaries as against $60.224 of last year. The announcement comes at a time when the Boradcasting media is beset by financial and operational problems. [Text] [Grand Turk TURKS & CAICOS NEWS in English 4 Apr 86 p 1] /9274

CSO: 5540/070

ERICSSON IN FRAMEWORK AGREEMENT TO MODERNIZE COMMUNICATIONS

Stockholm DAGENS NYHETER in Swedish 24 Apr 86 p 11

[Article by Sven Oste: "Big Deal With Algeria"]

[Excerpt] A framework agreement regarding Swedish-Algerian cooperation for telecommunications was signed on Wednesday in Stockholm. If the continued negotiations are concluded without a hitch, Ericsson will get a contract valued at nearly half a billion kronor.

What is involved is a major modernization of the telecommunications network primarily in the capital of Alger including 220,000 lines, digital exchanges, etc. Swedtel AB will also, it is hoped, sign a contract, primarily involving training.

"We are hoping for a rapid decision," Foreign Trade Minister Mats Hellstrom stressed at the signing at the Foreign Ministry.

On the part of Algeria the framework agreement was signed by Planning Minister Ali Oubouzar. The ceremony took place in connection with President Benjedid Chadli's state visit.

Negotiations between Ericsson and the Algerian state have been under way for a long time. On the part of Algeria there are efforts to connect such commercial agreements with a state guarantee. This is a pattern which the Swedish government does not want to accept.

Compromise

But the framework agreement is a compromise, observers emphasize. Sweden, for its part, stresses that the state might undertake efforts to find favorable financing. This means mainly contributions from BITS (Committee for International Technical-Economic Cooperation). This organization was created about 10 years ago, precisely with a view to Algeria and the goal of facilitating agreements with nations which are not defined as assistance nations.

Negotiations

Hope was expressed by both sides during the signing that the framework agreement will become a formula for agreements in other areas as well. On the part of Algeria it was often emphasized that a role for Swedish companies could be envisioned for example in the production of automobiles and pharmaceuticals in Algeria.

11949
CSO: 5500/2680

INDIA INTERESTED IN MINITERMINAL SATELLITE MANUFACTURE

Madras THE HINDU in English 18 Apr 86 p 7

[Text] NEW DELHI, April 17.

India has evinced interest in manufacturing the new mini-terminal "Standard-C" developed by the International Maritime Satellite Organisation (INMARSAT) and in availing itself of the wide range of satellite communication services offered by INMARSAT not only in the maritime sector but also in aviation and surface transport sectors.

This is the outcome of the discussions the INMARSAT Director General, Mr. Olof Lundberg, had here with Indian Government representatives during the last two days. Among those whom Mr. Lundberg met were the Communications Minister, Mr. Ram Nivas Mirdha, the Civil Aviation Minister, Mr. Jagdish Tytler, the Surface Transport Minister, Mr. Rajesh Pilot, the Telecommunications Secretary, Mr. D. K. Sangal, the Secretary to Department of Science and Technology, Dr. S. Ramachandran and the Space Department Secretary, Mr. U. R. Rao.

Positive response: Mr. Lundberg told THE HINDU that during these meetings he had made a number of proposals for greater Indian participation in the activities of INMARSAT and the response from the Government of India representatives was quite positive. He noted that INMARSAT operated a system of satellites to provide telephone, telex, data and facsimile besides distress and safety communication services to the shipping and offshore industries. Over 4,300 users were equipped with ship or transportable earth stations to access the INMARSAT system. These included Indian ships and offshore industries. There were 21 Indian terminals of which two were in Antarctica.

Besides maritime communication services, the INMARSAT provided links between the satellites and international telecommunication networks through a chain of coastal earth stations, which were owned and operated by the member-country where it was located. There were now 14 coastal earth stations one each in Greece, Brazil, France, Italy, Kuwait, Norway, Singapore and Britain and two each in Japan, the U.S. and the Soviet Union.

New type of terminal: Mr. Lundberg said the INMARSAT had now developed a new type of lightweight, low-cost satellite communication terminal, capable of receiving and transmitting data or text communications anywhere within the worldwide coverage of its satellite system. Named Standard-C, the new system represented a radical development in satellite communication, he claimed. Its size, portability and low cost would enable the establishment of a high quality data communication link at any time.

In marine environment, Standard-C would extend the advantages and reliability of satellite communication to all vessel operators and boat owners. Besides receiving and transmitting text or data messages, the terminal would be used as enhanced group call (EGC) receiver for marine safety and other group or area broadcast information, global message paging and news bulletins.

On land, Standard-C could be used for remote monitoring and control applications, such as unmanned weather stations or oil and gas well-heads.

The cost: Mr. Lundberg explored the prospects of India taking up manufacture of this mini-terminal and making use of it for providing communication links with moving trains and trucks. According to him, the public sector Indian Telephone Industries (ITI) had shown interest in undertaking the manufacture of this device. At present the cost of production is estimated at Rs. 40,000 per terminal, but it can be brought down to Rs. 15,000 if the volume of production is increased.

The INMARSAT, Mr. Lundberg said, had diversified its operations to provide satellite communications to the aviation community. Two types of services were now under development. One sought to provide low speed data links for airline operational, meteorological, air traffic control, position and performance monitoring and safety communication. The equipment required aboard an aircraft to access this service would be compact and simple. The other service would be capable of providing higher speed data and voice communications, including payphone facilities for airline passengers.

The major users of voice services were expected to be passengers placing telephone calls through in-cabin handsets activated by credit cards and switched through the receiving earth stations into the international telecommunications network. Business passengers could send telex-type messages.

Mr. Lundberg said the Indian Space Research Organisation, Civil Aviation Department and Indian Airlines had evinced interest in making use of these facilities and he expected them to participate actively in the trial and demonstration of these devices.

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CSO: 5550/0113

INDIA

DEPARTMENT OF ELECTRONICS ISSUES ANNUAL REPORT

New Delhi PATRIOT in English 19 Apr 86 p 2

[Text]

The Indian electronics industry grew by 40.7 per cent in 1985 with consumer electronics accounting for the highest growth rate of 75.5 per cent, reports Unifin..

According to the annual report of the Department of Electronics for 1985-86, the total electronics production in 1985 was around Rs 26,600 million compared to Rs 18, 900 million in 1984 and Rs 13,600 million in 1983.

The production of consumer electronics rose to Rs 10,300 million against Rs 5,870 million in 1984. The growth in consumer electronics was accompanied by a fall in prices. Production of TV receivers registered a significant increase.

In 1985, the production of black and white TV sets touched 1.8 million against one million in 1984, a growth of 80 per cent. Colour TV receivers reached a level of 0.66 million units compared to 0.28 million in 1984, registering a growth of 136 per cent. The output of tape-recorder increased from 1.22 million in 1984 to two million in 1985, a growth of [illegible]6 per cent.

The report says that the import content in CTVs was of the high order of 80 per cent. But, it hopes, that with the number of licences given for the manufacture of CTV components, there would be significant decline in imports within a year.

In the area of VCR/VCP and microwave oven, more than 100 applications are being processed by an inter-departmental task force. The Government policy is to encourage only such units which would be prepared to commit sizable investment for suitable vertical integration, with an accelerated phased manufacturing programme and which have the requisite in-built capacity to keep pace with technological changes.

The communication and broadcasting sector has shown a growth rate of 18 per cent with production increasing from Rs 3205 million in 1984 to Rs 3800 million in 1985. The private sector has been given 40 letters of intent for the manufacture of electronic telephones, 12 for electronic PABX, two for electronic teleprinters, eight for digital facsimile equipment and three for electronic pay phones.

A major programme for the manufacture of high power microwave tubes is being implemented by Bharat Electronics Limited and Defence Research and Development Organisation. Production of tubes is expected to commence in the latter half of 1986-87. DOE approved 10 different cases of industrial licences in the defence and aerospace sectors.

In the sector of control instrumentation and industrial electronics, the working group on test and measuring instruments for the seventh Plan had estimated the demand in 1985-36 at around Rs 125 crore whereas the production is not expected to exceed Rs 65 crore. In 1986-87, the demand has been projected at Rs 145 crore and the production is expected to be around only Rs 80 crore. Only four letters of intent have been issued for the manufacture of test and measuring instruments in 1985-86.

In computer systems, the production increased from Rs 920 million in 1984 to Rs 1550 million in 1985, a growth rate of 68.5 per cent. Compared to a production of 2000 mini/micro systems in 1984, the output in 1985 is expected to be around 5000 to 5500 systems, a 150 per cent growth rate in physical terms.

DOE has initiated steps for setting up a centre for the development and production of computer mainframes. The Electronic Corporation of India (ECIL) which will undertake the project had already taken the necessary measures for acquiring land and construction of the building. An investment of Rs 35 crore has been approved.

The electronics components industry grew by 35.2 per cent in 1985. Production of B/W TV picture tubes rose from 0.81 million in 1984 to 1.45 million last year, a growth of 80 per cent.

In value terms, the production of the components sector rose from Rs 303 crore in 1984 to Rs 410 crore in 1985. Major investments were made in this area. The DOE report says, to expedite clearance of project proposals by the financial institutions, a working group has been set up with representatives of the Departments of Electronics, Industrial Development and Industrial Development Bank of India. The Santa Cruz Export Processing Zone, however, registered a negative growth of 17.9 per cent. In 1985, 79 applications were received under the 100 per cent export oriented scheme. Out of this, 18 were from non-resident Indians. The export target for the terminal year of the seventh Plan (1989-90) has been set at Rs 1,000 crore.

/12828
CSO: 5550/0114

INDIA

MINISTRY OF BROADCASTING RELEASES ANNUAL REPORT

New Delhi PATRIOT in English 19 Apr 86 p 5

[Text]

A big expansion plan has been prepared for Doordarshan during 1986-87, reports PTI.

An amount of Rs 124.20 crores, has been earmarked for this prupose, a little highir than half of the Rs 242.30 crore approved for the Information and Broadcasting Ministry during the financial year, according to the annual report of the Ministry for 1985-86.

Provision has been made for setting up TV studio centres at Bhopal, Patna and Bhubaneshwar.

Arrangements have also been made for renewal, replacement and modernisation of equipment, expansion of primary service, TV coverage in border areas and satellite uplinks. Besides, on-going schemes of TV studies at Jaipur, Ahmedbad and Trivandrum, and civil works for Lucknow, Bangalore and Guwahati studios will be completed.

According to the report, provision has been made for acquisition of sites, placing of orders and payments of initial advances for equipment for the various new schemes under the plan.

Civil works for studio centres at Silchar, Imphal, Aizwal and Hyderabad will be completed. T V Transmitters of 10 kw power will be commissioned at Vijayawada, Poonch, Panaji, , Agartula and Visakhapatnam.

The main objective of the Doordarshan's annual plan for 1985-86, had been to complete the schemes spilled over from the Sixth Plan for which Rs 47 crore had been earmarked.

The report says for new schemes an outlay of Rs seven crore was provided during 1985-86. Continuing schemes spilled over from the Sixth Plan executed during 1985-86 included commissioning of TV transmitters of full 10 kw power at nine places, commissioning of Low Power Transmitters (LPTs) at three places, commissioning of second channel at Bombay on 1 May last of civil works of studio buildings at Calcutta, Jaipur, Ahmedabad and Trivandrum, acquisition of sites for programme production centres for north-east plan projects, finalisation of sites for studio centres at Bhopal, Patna and Bhubaneswar, and introduction of teletex service in Delhi in November last.

The report says that during 1985-86, the Seventh Plan of Doordarshan involving an outlay of Rs 700 crore was approved.

Over 60 per cent of the total plan outlay, according to it, is proposed to be utilised for creation of new programme production facilities and augmentation and modernisation of the exisiting ones.

The schemes include establishment of full-fledged TV studio centres at the capitals of six major states where these facilities do not exist at present.

In addition, programme generation facilities are proposed to be provided at the capitals of smaller states and in most of the union territories.

The report says that with the completion of these new schemes and those already under implementation, all States and most of the union territories would have facilities for production of programmes.

TV studio centres are also proposed to be set up at important cultural centres in major states. Provision has been made for establishment of microwave and satellite links necessary for primary service. A major scheme for modernisation and replacement of existing studio equipment has been included in the Plan.

The report further says that due attention has been paid to the expansion of transmitter network with a view to providing TV service to about 80 per cent of the country's population by the end of the plan period. A number of special schemes for soft-ware development are also proposed to be taken up during the plan period.

/12828
CSO: 5500/0117

INDIA

GOVERNMENT ACCEPTS MEDIA ADVISORY PANEL GUIDELINES

Bombay THE TIMES OF INDIA in English 29 Apr 86 p 16

[Text]

NEW DELHI, April 28
(PTI & UNI).

GUIDELINES framed by the high-level media advisory committee attached to the ministry of information and broadcasting relating to news policy for broadcast media has been accepted by the government and communicated to All India Radio and Doordarshan, the Lok Sabha was informed today.

These guidelines provide for ensuring objectivity, impartiality and accuracy in Doordarshan's newscasts, the minister of state for information and broadcasting, Mr. V. N. Gadgil, told Mr. Jai Prakash Agarwal in a written reply.

The basic features are:

1) The reporting of the news has to be factual, accurate and objective.

2) Each news story should be judged strictly on the basis of its news value.

3) In the selection of news, AIR and Doordarshan should be guided by the highest possible professional standards.

4) Where necessary, background to the events and happenings should be provided to help place them in perspective.

CRITERIA OF ACCURACY

5) News should satisfy the highest criteria of accuracy and responsibility.

6) People's participation in developmental activities and significant work being done by voluntary agencies should be highlighted.

7) The style and method of news reporting should reinforce the fundamental principles of national policies, including territorial integrity, national integration, secularism, maintenance of public order and upholding the dignity and prestige of parliament, state legislatures and the judiciary.

8) Ministerial statements and policy matters, particularly those of the Prime Minister, and implementation of government programmes should be given proper place in the news. The focus should be on information rather than on individuals.

9) In reporting political controversies, the broadcast media should be guided by objectivity and fair play. Due representation of differing views should be the aim.

10) In the choice of international events, the objective should be to keep the people informed of world developments.

In reply to a question, the minister said it was not feasible to include "Sansad Samachar" and "Parliament news" in the national programme of Doordarshan due to inadequacy of time.

CELL FOR JOURNALISTS: The government ruled out a suggestion for creation of a special cell in the ministry of information and broadcasting to provide protection to journalists, particularly those living in the mofussil and interior areas.

Mr. Gadgil was replying to a question by Mr. Mewa Singh Gill on the suggestion given by the Indian Federation of Working Journalists (IFWJ).

Mr. Gadgil said the government was of the view that the existing arrangements were quite adequate to protect the lives and property of journalists to enable them to discharge their professional obligations effectively.

"Specific cases of harassment or assault, if any, brought to the notice of the government are looked into," he said.

Replying to a supplementary, Mr. Gadgil said figures received from the states did not show that the assaults on newsmen were on the increase.

Mr. Gadgil said a few states had reported some cases of assault. But most states had not reported any case.

Mr. K. K. Tiwari said assaults on journalists deserved to be condemned. He said newspaper reports showed that harassment of newsmen were on the increase. The extremists in Punjab had prepared a hit list of journalists, and, if so, what action does the government propose to take in this regard, he asked.

Mr. Gadgil reiterated that the figures he had received from the states did not show prima facie at least that the assaults were on the increase. He said some individual cases had been brought to his notice by some members of parliament.

But when those cases were referred to the states concerned, he received replies that most of the specific cases did not relate to professional matters of journalists but related to other reasons like personal feuds.

On the threats posed by extremists, Mr. Gadgil said, the matter was being looked into by the ministry of internal security.

Replying to Mr. Dinesh Goswami, Mr. Gadgil said the government believed in a free and fearless press. "I salute the journalists who perform their duty fearlessly in the public interest."

In regard to certain specific cases, Mr. Gadgil said he had sought information from the states. They were being investigated.

NEWSPRINT & PROBLEMS: The finance ministry is examining the representations of the Indian and Eastern Newspaper Society (IENS) regarding newsprint and problems relating to the printing industry, the house was informed.

The representations demanded abolition of customs duty on newsprint, reduction in customs duty on RC paper, graphic art film and pre-sensitised offset plates and investment allowance on capital goods-equipment for printing industry, Mr. Gadgil said in a written reply.

/12828
CSO: 5550/0118

MINISTER DISCUSSES PLANS TO IMPROVE TELEPHONE SERVICE

Bombay THE TIMES OF INDIA in English 25 Apr 86 p 17

[Text] NEW DELHI, April 24.

CONSULTATIONS are on with neighbouring countries for introducing fully automatic subscriber trunk dialling (STD) and telex services.

This was one of the objectives set for SAARC by the recent summit conference held at Dhaka.

Mr. Ram Niwas Mirdha, the minister for communication, informed the parliamentary consultative committee attached to his ministry that at present telecom services to neighbouring countries like Pakistan, Nepal, Bhutan, Bangladesh and Sri Lanka, were provided through reliable broad-band media.

Provision was available for fully automated services to these countries. At present semi-automatic working was prevalent for Pakistan, Nepal, Bhutan and Sri Lanka.

LOCAL NETWORK

The minister revealed that the targeted additional capacity for the local telephone network had been exceeded by 17 per cent, 57,000 more than the targeted 300,000.

As regards utilisation through new lines, the achievement was 2.67 lakhs against the target of 2.2 lakhs.

The total number of working connections in the country now was now 31,65,642, while the total exchange capacity was 36,64,042.

Spelling out the broad spectrum of modernisation planned Mr. Mirdha told the committee that directory enquiry service '197' and trunk manual exchanges were being computerised and the facility was being extended to 32 important stations.

Another technological innovation planned was the extending of the mobile radio telephone service to the national capital region and Bombay.

The radio paging service, introduced in Delhi, would be extended to ten more stations namely Bombay, Calcutta, Madras, Ahmedabad, Bangalore, Hyderabad, Kanpur, Pune, Jaipur and Ernakulam.

Six more trunk automatic exchanges had been expanded with a total capacity of 5,400 lines last year. In the current year digital type trunk automatic exchanges were proposed to be commissioned at Agra (2,000) Pune (3,000), Tiruchi (2,000) and Lucknow (1,000).

TELEX EXCHANGES

Twenty-one more telex exchanges were added to the network with 1,580 more lines making a total capacity of 40,674.

The minister said his department had proposed a provision of 29-lakh direct exchange lines and extension of public telephones to within five km of every village through about 22,000 additional LDPTS in the seventh plan.

An investment of Rs. 11,282 crores was needed to achieve this target.

The planning commission was, however, able to allocate only Rs. 4,010 crores.

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CSO: 5550/0115

INDIA

P&T NETWORK FOR TRADE AND INDUSTRY PROPOSED

Bombay THE TIMES OF INDIA in English 28 Apr 86 p 7

[Text] MADRAS, April 27. A TELECOMMUNICATIONS overlay network is proposed by telecommunications department to meet the special needs of industry and business for more advanced and reliable telecommunications service. The overlay network would have proper linkage with the existing one.

An inter-departmental committee with representatives of the departments of telecommunications, electronics, space and economic affairs has been appointed to work out the feasibility of the overlay network, Mr. D. K. Sangal, secretary (telecommunications) has said in a message to a seminar on "business opportunities in telecommunication sector" here, organised by the southern regional unit of the Association of Indian Engineering industry. (AIEI).

Mr. Sangal said the poor service from the existing life-expired equipment would continue owing to resources constraints. In a bid to increase the resources, the Mahanagar Telephone Nigam would enter the market for substantial borrowings in 1986-87, he said.

The idea was to supplement the allocation of Rs. 4,050 crores through direct borrowings from the public. The allocation consisted of Rs. 2,500 crores of internal resources and Rs. 1,510 crores of budgetary support for the telecom sector in the seventh plan as against the department's proposal for an investment allocation of Rs. 10,570 crores.

Mr. U. D. N. Rao, director of the Telecommunication Research Centre, said though modern technology was the key to development of telecommunications, a transplanted system from the West would not work here. Adaptations would be necessary to suit local conditions.

Mr. Rao said the department hopes to build up a national optical fibre network during the seventh plan. The network would include the four metropolitan cities as also some other cities like Bangalore, Ahmedabad and Baroda would be linked up. To begin with, for experimental purposes.

Optical fibres had great potential and was in close competition with satellite communication system. It would come in a big way as it was extremely good for long distance transmission and for use within cities for junction cables, Mr. Rao said. A factory being set up by the government would produce 40,000 km. of optical fibres a year.

He said the idea of using the public telephone system for data communication had not caught up. The P & T department could invest in this area if there was interest among users.

The telephone system was being used for private conversation, he said. A study five years back had shown that 14 per cent of the calls over the telephone lasted more than three minutes, a message taking 15 minutes to be conveyed orally over the telephone would take just 20 seconds when transmitted as data.

If the requirement of voice transmission was eliminated, a low-cost mission was eliminated, low-cost could be developed.

/12828
CSO: 5550/0116

INDIA

BRIEFS

SECOND CHANNEL HOOKUP--Bombay--Union Information and Broadcasting Minister V N Gadgil today said the proposed second channel on Doordarshan would start on the national hookup from July this year. Speaking at a press conference here, the Union Minister said 20 per cent of the programmes telecast from the existing channel, will also be telecast from the second channel, which now is operational only in Delhi. Mr Gadgil said the teletext service, which was already operating in Delhi, will soon be introduced in Bombay and later in Madras and Calcutta. A "breakfast television programme" comprising yoga exercises, general non-formal education and late night news not covered by daily newspapers, was under consideration, he said. The extent of advertisements on television was limited to five per cent. [Text] [New Delhi PATRIOT in English 28 Apr 86 p 6]/12828

CSO: 5550/0119

GHANA

POSTAL OFFICIAL CITED ON COMMUNICATIONS, MODERNIZATION

AB162240 Accra Domestic Service in English 2100 GMT 16 May 86

[Text] The satellite earth station at Kuntunse, which is Ghana's gateway to other parts of the world, is working satisfactorily in spite of a few technical problems. This assurance was given by the director general of the P and T [Posts and Telecommunications] Corporation, Colonel Kwesi Oppong, retired, at a news conference in Kuntunse to mark the 18th World Telecommunications Day celebration. He said all the 41 circuits for external telephones, telex, and telegraphic services are going through. The only problem is with the TV transmission link and the automatic tracking unit of the antenna. Colonel Oppong said, however, that measures are well in hand to rectify these difficulties and to also rehabilitate the entire station in preparation for the next INTELSAT program which starts next year. He said originally, the earth station project included the provision of an international telephone switch for automatic dialing. Unfortunately, the contractors failed to install the equipment. He gave the assurance that plans have been completed to procure the switching equipment, and it is expected to be put in service by the middle of next year.

On the construction of the Ghana portion of PANAFTEL, Colonel Oppong said the corporation has completed and tested the link to Togo, and it is in the final stages of completing the link to the Ivory Coast border. When completed, the project will enable Ghana to communicate with her West African neighbors directly without passing through Europe. Also, the Ghana portion of its microwave radio link with Burkina Faso has almost been completed.

Colonel Oppong said over the past 10 years the corporation has embarked on projects involving well over $100 million. These projects include the expansion and improvement of facilities and services in the Accra metropolitan area, and microwave radio network in the whole of the country for use principally by the P and T, and the Ghana Broadcasting Corporation [GBC].

On the role of users of telecommunications facilities and services, Col Kwesi Oppong said they must assist the corporation to provide satisfactory services. He also appealed to both users and the general public to minimize the present alarming rate of destruction of transmission systems and installations.

The chief signal and telecommunications engineer of the Ghana Railway Corporation, Dr Y. (Divarders), who also spoke, said the corporation is being provided on the western line with the most up-to-date communications system incorporating the latest strength in telecommunications' technology, and harnessing of solar power. He said the communications of the Ghana Railway will therefore be among the foremost in the developing world.

The function was chaired by the director general of the GBC, Mr Fifi Hesse. He was optimistic about the future for telecommunications expansion in Ghana. Mr Fifi Hesse said the provision of telecommunications facilities is, however, capital-intensive, and requires aid from multinational agencies and donor countries.

/9604
CSO: 5500/73

FRANCE TO FINANCE NEW RADIO-TV TRANSMITTER

Dakar LE SOLEIL in French 7 Apr 86 p 10

[Text] Senegal's Radio and TV Broadcastint Office (ORTS) will soon be getting a new 10-kilowatt transmitter. Within about 2 months, it will be installed at Ziguinchor to allow the national system to provide full coverage to the region formerly known as the Casamabce, to Gambia, and to the southern portion of eastern Senegal.

The transmitter will cost 335 million CFA francs, 275 million of which France will provide, with the remaining 60 million coming as Senegal's share. The financial agreement covering the acquisition was signed on Thursday afternoon in Dakar by Senegal's communications minister, Djibo Ka, and by France's ambassador to Senegal, Claude Harel.

At the signing ceremony, Djibo Ka praised this "important contribution from France, which will, he said "give renewed momentum" to ORTS, and cited its "essential role in the implementation of national policy in the communications area and in that of increasing awareness of changing attitudes."

Claude Harel dwelt on the importance his country attaches to "so vital a factor as communications" and cited the excellent relations that have prevailed between Teledifusion de France (TDF) and the ORTS in areas as disparate as technical training, maintenance and improvements to the networks, etc.

In this connection, he announced that 20 cable TV receivers will be installed in community centers in the Ziguinchor, Thies, and Dakar areas, so as to enable villagers to gain a fuller understanding of what is going on throughout the nation.

These reception centers will cost 300 million CFA francs, and at least some of them will be solar powered. With financing from France, they will be a continuation of the Deny Biram Ndao experiment that began in Dakar in 1984.

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CSO: 5500/70

TANZANIA

BRIEFS

RADIO TANZANIA INAUGURATES NEW TRANSMITTER--Dar Es Salaam: Radio Tanzania will tomorrow inaugurate its new 20kw transmitter. The medium wave transmitter will replace the one installed in 1956 and marks the completion of the first phase of rehabilitating Radio Tanzania's equipment. The transmitter, located behind broadcasting house on Pugu Road, was manufactured in Yugoslavia and cost nearly 4.6 billion shillings. In the expansion of its broadcasting network, Radio Tanzania will launch the second phase of rehabilitating its equipment immediately after it acquires foreign exchange. The second phase includes the buying of a similar transmitter. A tender for the transmitter has already been awarded to a Swiss company, which will buy and install it at a cost of 1.7 billion U.S. dollars. [Text] [Dar Es Salaam Domestic Service in Swahili 1700 GMT 11 May 86 LD] /12712

CSO: 5500/72

ZAMBIA

BRIEFS

FIRM WINS EARTH STATION CONTRACT--Montreal, (Canada)--The Canadian company Spar Aerospace said here on Thursday that it had won a 7.5 million U.S. dollar contract to build a satellite earth station near Lusaka. The contract will be 90 percent funded by the Canadian International Development Agency. Zambia will pay a further 750,000 dollars for the associated buildings. Spar Aerospace, which developed the articulated arm for the U.S. space shuttle, will train Zambian engineers and technicians in its factories, the firm said. Late last year the Canadian government said it would grant the Southern African Development Co-ordination Conference [SADCC] 13.93 million Canadian dollars for the Mwembeshi II Earth Station. The money would be used to construct a second antenna facing the Atlantic Ocean. The existing one faces the Indian Ocean. [Text] [Lusaka ZAMBIA DAILY MAIL in English 25 Apr 86 p 1] /9274

CSO: 5500/73

MANY POLITICAL, FINANCIAL PROBLEMS REMAIN FOR NORDICS' TELE-X

Helsinki HUFVUDSTADSBLADET in Swedish 18 Mar 86 p 9

[Erik Wahlstrom: "Launching Tele-X Was Simple, Using It Is More Difficult"]

[Text] In July 1987 an Ariane booster rocket will be launched from a base in French Guyana and place a Nordic communications satellite in stationary orbit 5 degrees east of Greenwich and 36,000 kilometers right above the equator.

It will circle the earth with the speed of the earth's rotation and will therefore be kept stationary over the same spot all the time.

The satellite is called Tele-X.

That much is easy to predict about the satellite, and also that it will link data between companies in the Nordic region.

But whether it will also transmit television programs to viewers in the Nordic region is totally impossible to predict today.

Abominable Statistics

That matter depends on political decisions. The game statistics of the politicans in this field have been abominable so far. For decades they have discussed which would be the very, very best cultural policy alternative for Nordic television cooperation in the satellite age.

They have resolutely rejected all proposals for any next best alternatives.

The result today is that the very worst cultural policy alternative--Sky Channel--is visible all over the Nordic area, without any joint Nordic competition of either the best or the next best kind.

Pro-Tele-X

Tele-X was discussed at a seminar at the State Technical Research Institute in Otnas yesterday. It was a strongly pro-Tele-X seminar.

Tele-X is a project for companies which are high-tech or want to become so. In Finland there are three companies which primarily participate in supplying technology to Tele-X, namely Nokia, Valmet and Teleste. The State Technical Research Institute is also involved.

Can Do a Great Deal

Tele-Z can do a great deal. It can transmit data at a top speed of 34 megabits per second, even if normal computer communication takes place at considerably lower speeds, such as 2 megabits or 64 kilobits per second.

Per Zetterquist from the Swedish Space Company said that he thinks it is in communication between computers that Tele-X will be most successful.

"We compete primarily with all the small messenger cars that are driving around today with computer tapes between offices," Zetterquist said.

Companies can also set up television conferences between up to four parties via Tele-X.

Other forms of office services, remote printing of newspapers and educational television are also potential areas of application for Tele-X.

But all of this is of less interest to the electronics industry as a whole.

Most important is that Tele-X will provide it with an opportunity to learn, to get a foot in the door to a highly technological industry and hopefully lead to spin offs of various kinds in the future.

"We do not anticipate making a profit from Tele-X, at least at this stage," said the representative of the Telset company. "We participate for other reasons."

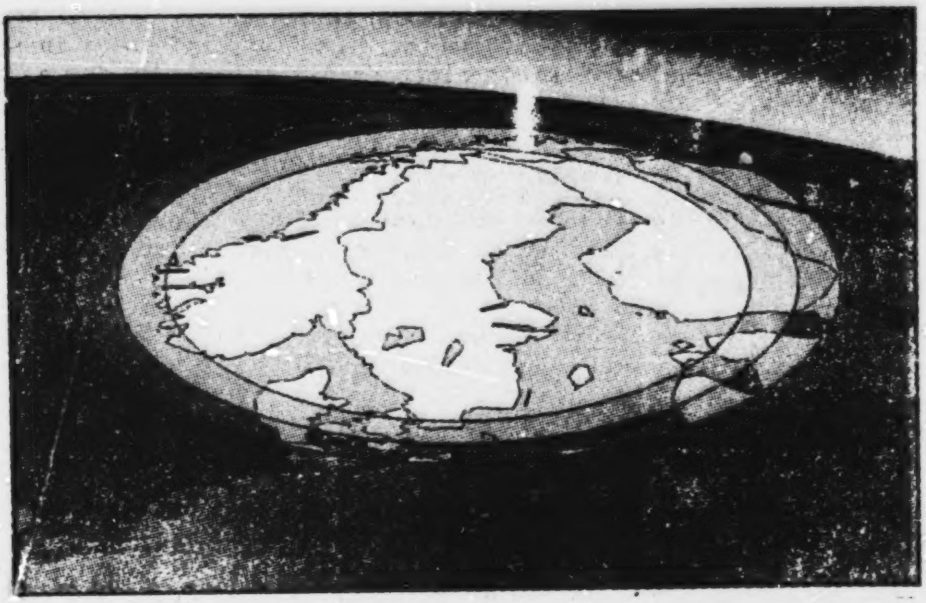
What Are We Going to Use it for?

Now that industry is launching that tin can into space for its own egotistical reasons, it could of course also be used for television-cultural purposes, if anyone should happen to be interested in such things.

The opportunity for television transmission is also good for Tele-X's image, since it gives the satellite an idealistic touch of public service channel, which justifies the investment of public funds in it by the Nordic nations.

Welcome Technology

The satellite technology as such is very welcome from the aspect of cultural policy. Satellite transmission of television is much cheaper than ground-based transmission. In principle it covers every household within an entire area at reasonable cost.



This is what the Nordic region would look like to an astronaut straddling the Tele-X satellite, 36,000 kilometers above the equator.

The aspect of complete coverage is very important. It is unacceptable for a responsible politician to decide on a system which distributes programs only to the most densely populated parts of the countries. The sparsely populated fringe areas must also get television; the Norwegians, for example, are very anxious that workers on oil rigs should have television service, but in accordance with a well-known law of nature it is the last percent that costs the most to reach.

Why Tele-X?

Why, then, would the Nordic states choose Tele-X over some other satellite that is available, or will be available within a near future?

Because, the Tele-X people say, their satellite has great transmission power which enables consumers to receive a signal with a relatively small antenna. Even in the outermost fringe areas it need never exceed a diameter greater than 90 cm. This means that individual households can mount antennas on their own roofs.

"The Tele-X satellite becomes relatively heavy and expensive because of this," Zetterquist says, "but the total costs for everything, including ground-based systems, will be favorable."

(The brains of the ground-based systems, the Tele-X control center, will be built--with vital cooperation from Nokia--in Kiruna. The Swedish government has chosen to concentrate all space companies in this northern city, partly for reasons of regional policy, and partly because it is easier to spy on the Soviet military installations on the Kola peninsula from there.)

"Not even Tele-X can be received everywhere in the Nordic region, however," says Karl-Erik Eriksson from Notelsat, the Swedish and Norwegian telecommunications agencies' company behind the satellite. The angle between the satellite over the equator and northernmost Norway becomes so small that the walls of the mountains shadow it. There the signal must be received at the top of the mountains and distributed to the households in some ground-based manner.

This does not alter the general decentralization-friendly profile of Tele-X, however.

Light Satellites

Tele-X's competitors Intelsat and ECS are constructed according to another system. The transmission power of the satellites is relatively low, which makes them cheap and light but results in higher expense for receiving their signals on the earth's surface.

"Tele-X's ground stations are about 10 times cheaper than Intelsat's and ECS's," says laboratory chief Veli Santomaa from the Telecommunications Technology Laboratory of the State Technical Research Center.

The fact that Tele-X can be received directly by individual households gives it a cultural-political advantage. If a satellite requires expensive central antennas, it means that the programs must be further distributed to the households by some ground-based means, and that is not possible in sparsely populated regions, whose equality with the densely populated locations is what all of the political parties say they want to promote.

No Dialog

But Kaj-Peter Mattsson, who is a consulting civil servant at the Traffic Ministry, noted that no dialog whatever has occurred between the industry and cultural politicians regarding Tele-X.

Right now the Nordic television companies are pondering how they can conceivably use the two channels offered by Tele-X. One might be of inital use for handling news and current affairs programs, while the other will include sports, entertainment and culture. The preliminary study by the companies will be finished in April.

After an introductory 3-year trial period, the nations would then take a stand on whether there is reason to continue Tele-X or not. In general, both opponents and advocates believe that there can be no question of planning and implementing Tele-X for only 3 years and then scrapping the whole thing.

Where Get the Money?

"The problem is that this requires money," Mattsson said. Just translating the programs whose importance is strongly emphasized by Finland is believed to cost about 84 million Swedish kronor annually.

"The questions of origin are also very complicated and require negotiations," Mattsson said. Actual negotiations can only get under way after a definite decision to realize Tele-X, but discussions have already been initiated between the originating organizations and the radio companies. This will also become a costly item in the budget.

In general it will not be technology but program activity and content which will cost money, which is only they way it should be.

Unacceptable Alternatives

Then how will Tele-X be financed?

Mattsson recounted all the alternatives, which are all equally unacceptable to a responsible politician: raising telecommunications fees, allocating budget funds (these alternatives are just as revolting to the other Nordic countries as they are to Finland), or allowing advertising (unacceptable to Sweden) or some form of pay television.

Santomaa said that it is likely there will be 90-180 television channels in Europe around 1995, for which the problem will be to find sufficient programs to fill them with.

And Mattsson noted that Tele-X is in a totally different media situation compared to the one that prevailed when it was first discussed at the beginning of this decade.

"There is tough competition between various program producers," he said. Furthermore, Tele-X does compete only with producers outside the Nordic region but also with the Nordic telecommunications agencies' Nordprog (if it is realized). And within the individual Nordic countries there are regional projects which are competing.

The most current example of this is the Finnish television channel 3.
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CSO: 3650/190

EEC DISCUSSES LOWERING INTRA-EUROPEAN TV BARRIERS

Paris LA TRIBUNE DE L'ECONOMIE in French 20 Mar 86 p 13

[Article by M.P., Correspondent in Brussels: "The Commission wants to Create European TV"]

[Text] On 19 March the European Commission launched a debate that is expected to be long and lively by proposing an EEC directive for the creation of a true "common market for television."

At a time when technical progress--cable distribution, direct satellite broadcasting, etc.--is breaking down national boundaries in the audiovisual field, the executive committee of the Commission considered it necessary to propose common regulations setting down the basic principle that "in the future nothing shall legally or administratively prevent broadcasts produced legally in one EEC country from being received in all the other member countries."

In order to assure this broadcasting freedom at the Community level, the Commission is recommending adoption of a certain number of criteria that will simultaneously eliminate the reasons generally advanced by national authorities for refusing "importation" of programs made beyond their frontiers, promote a certain degree of quality in the programs broadcasted and finally, protect a certain form of European cultural identity.

Thus, the directive includes a minimal advertising "code" prohibiting any promotion of tobacco consumption and limiting that of alcohol. Likewise, while each nation is free to set a ceiling on the volume of broadcast advertising, none may refuse a foreign broadcast incorporating no more than 15 percent advertising.

This figure of 15 percent, which was set only after very long deliberations, will probably be disputed not only by Denmark and Belgium, which do not allow advertising on their national networks, but also by France, which has set no limit for the fifth and sixth networks, by Luxembourg because RTL [Luxembourg Radio Television] and RTL Plus are in the same situation, by Italy because Euro TV can reach 22.3 percent, and by FRG, where nine states have set the limit at 20 percent.

As for program content, the directive insists that preference be given to Community productions. For starters it suggests at least 30 percent, excluding news programs, sports, and advertising, should respect that formula. Later, the percentage would be raised to 60 percent, a figure that reflects current reality in the EEC but that the Commission obviously fears will be demolished by the "newcomers" tempted to "carry out their activities at very low costs on the basis of programing made up of advertising, popular series and serials supplied at dumping prices by third countries."

In addition, TV stations would also have to devote 5 percent of their budget to the acquisition of programs offered by independent producers. Of course, this "traffic" of broadcasts across national boundaries would be facilitated by adequate Community provisions in the areas of copyright protection and payment of royalties.

In this spirit, the commission also wants to encourage the development of European networks and the broadcasting of programs to all of the 320 million citizens of the EEC. Prior to the outbreak of the EEC budget crisis, funding of approximately 13 million French francs was provided for Europa/TV, a television channel based in the Netherlands that broadcasts by satellite multilingual programs produced by a consortium composed of ARD (FRG), NOS (Holland), RAI (Italy), RTE (Ireland), and RTP (Portugal).

Other projects could benefit from similar financial aid, particularly those of Mr Berlusconi and Mr Seydoux, and from FR3. In regard to the latter network, Ripa Di Meana, the European commissioner in charge, drew attention to a letter from Mr Langlois and it is believed that a meeting is planned for early April in Brussels.

"High Definition" Battle

The Community is going to throw all its weight behind the battle being carried out by European industries to impose their "high definition" television standard in the face of a project developed by NHK, the most powerful Japanese television network.

The EEC Commission announced on 19 March that, during a meeting held at its initiative 2 days earlier in Brussels with industry representatives (Thomson, Philips, Bosch, Thorn/EMI), national administrations and those responsible for European radio broadcasting had decided upon a precise working program that will be submitted to the International Radio Broadcasting Consultative Committee next May.

It will be a matter of developing a world standard of European origin with the possibility of having equipment on the market at the end of the decade.

The Commission has announced that RACE, the Community research program on telecommunications, would contribute actively to this project and that the industries were preparing a Eureka project that could be launched this summer.

In industrial and financial terms, the importance of this battle for television in the year 2000 is considerable. It is sufficient to recall that the Japanese standard, received rather favorably by Latin American and Asian countries as well as by the American network CBS, is not compatible with present equipment. If it were selected, all TV equipment would have to be renovated from top to bottom.

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CSO: 5500/2642

BANGEMANN PROPOSES PARTIAL LIBERALIZATION OF BUNDESPOST

Munich SUEDDEUTSCHE ZEITUNG in German 12 Mar 86 p 33

[Article by editorial staff: "Bangemann: Also Think About Private Enterprise With Regard to the Postal Service"]

> [Text] Hanover(LU)--On Tuesday evening in Hanover, Martin Bangemann, the Minister of the Economy, urged more private initiative and a reduction of state influence. In his opinion even the state-owned monopoly, the Deutsche Bundespost, ought to be cut back. At the opening of the CeBit trade fair, which is dedicated to information science and communications products, this politician emphasized that the attitude of the people toward new technologies is different today than it was just a few years ago. "Absolute rejection has turned into varying degrees of acceptance," he said. Bangemann voiced opposition to direct support for companies. At the same time, however, negative social consequences would have to be alleviated by means of ancillary measures. Helmut Lohr, president of the Central Union of the Electrical Industry (ZVEI), also agreed with him. He pointed out that for the first time an economic upswing was put in motion by a "technological leap."

In his opening speech Bangemann opposed the role of the state as the "driving force" behind new technologies. Rather, he said, private companies must be given more latitude. The minister sees not yet exhausted potential for this in the area of telecommunications. In his view, the installation and operation of telecommunications networks must remain an obligation of the state in order to ensure service to the entire country. With regard to all other activities of the Bundespost this was not the case, he said, and thus it was questionable whether the Bundespost ought to be a supplier of terminal equipment at all.

From the same perspective Bangemann spoke out against direct support for research with public funds. Moreover, he said, the state must restrain itself with regard to introducing and disseminating new information products. The economic sector was much more knowledgeable about that situation. Assistance to individual firms in terms of mobility and adjustments ought to take the place of subsidies to maintain industries which are falling behind competitively. This would make unavoidable structural change more socially compatible.

The new technologies alter not only the professional expertise necessary but frequently also the social work environment, he said. This makes it more difficult to take on a job again after a lay-off. In Bangemann's opinion the state could help out here with specific "reentry training" following an education-related interruption in one's occupation for example.

Opportunities for Part-Time Work

According to Bangemann the new technologies provide new opportunities in terms of lifestyle. Work time is becoming less and less dependent on plant operating time. Bangemann appealed to companies and employees' councils to make use of opportunities for part-time employment and job sharing. Social structures would have to be adapted to broadened technical opportunities so that the advantages of the current period of change could be fully developed. The cooperation of the employees' councils in making the necessary adjustments was looked on very favorably. A greater say in management, on the other hand, was not considered necessary in Bangemann's view.

Technical change, as the economics minister emphasized, cannot be halted. It would be better, he said, to actively help structure it. Therefore, what is needed is not only an informed society but also an "innovative society" in which new ideas are tried and the courage to take risks is also rewarded.

The new technologies give the current economic upswing a "technical quality" not seen in economic cycles up to now. If the forces driving the economy upward should weaken, and the first indications are apparent in exports, the seeds of a new kind of positive development will grow out of the renewal of technical structures. The economy would follow a path of more steady growth. President Lohr of the ZVEI brought up these subjects at the opening of CeBit --that progress in productivity is the central factor in terms of the stability of current growth and that microelectronics is involved in it to a large extent.

In order for there to be future opportunities, still more must be done in terms of research, development and innovation, he said. It is not a question of supporting each and every idea that comes along but of setting clear priorities. More stringent guidelines must be set in selecting them. Product-specific research is a matter of private responsibility.

For the German information science and communications industry, the acquisition of an ISDN system is the focal point of concerns regarding development and sales. The FRG has an advantage in this respect which must be secured. International standardization is urgently needed. We cannot be content, either with being incompatible or with subjugating ourselves to the interface strategy of market leader IBM.

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CSO: 5500/2657

FEDERAL REPUBLIC OF GERMANY

SCHWARZ-SCHILLING LAUNCHES NEW BERLIN COMMUNICATIONS SYSTEM

Duesseldorf HANDELSBLATT in German 16 April 86 p 4

[Unattributed article: "Standardization Should Be Promoted"]

> [Text] HANDELSBLATT, Berlin, Tuesday, 15 Apr 1986 (AS)--Federal Postal Minister Schwarz-Schilling described the Berlin communications system--called BERKOM for short--which the Deutsche Bundespost in conjunction with the Berlin Senate has now given the official go-ahead, as entering into a completely new dimension in terms of providing and processing information. This pilot project, unique in the world, is intended to pave the way for telecommunications into the next century.

In addition to the development of telecommunications services and terminal equipment, BERKOM, as Schwarz-Schilling explained in Berlin, will also provide substantial encouragement for innovation in further developments in information science and information technology. Against the backdrop of the generally expected sharp decline in costs in glass fiber technology and optoelectronics, the introduction of the TV-telephone, for example, is also no longer a utopian concept with regard to purchasing power by the private sector.

One main goal of BERKOM, in addition, is to promote the standardization of new services. As yet, says the postal minister, there are scarcely any international standards; the initial stages of development of equipment and systems are just now being seen. Thus, BERKOM has a big opportunity to influence the nature of this process and to accelerate it, i.e. to make an important contribution toward standardized developments. "I consider this point extremely important," said Schwarz-Schilling, "because only by introducing standardized telecommunications services can we ensure that the new communications potential can be used not just by a small number of users but by all users with corresponding communications requirements." Only in this way can competition in the terminal equipment market be achieved, because internationally standardized services set the stage for open markets.

A special project management team for implementing BERKOM was set up by DETECON (Deutsche Telepost Consulting GmbH) under the auspices of the Deutsche Bundespost and with the assistance of the land of Berlin. Initially, this project management team is to prepare the overall developmental framework, award contracts for performance of the various parts of the project and supervise their completion. The construction of a new telecommunications network for personal communications requires substantial up-front investments, emphasized Schwarz-Schilling, because the network would have to be of a certain minimum size before it could be used.

A special glass-fiber network is being established for BERKOM as the testing and prototype network for the future glass-fiber broadband network. The overall project, which, according to the current level of planning, is expected to be concluded in 1989, is valued by Schwarz-Schilling at DM 100 billion.

Berlin's senator of science, Mr. Kewenig, also sees in BERKOM an opportunity for Berlin to test prototype developments with an eye to practical applications. Lastly, the expansion and reinforcement of the entire communications sector is of particular importance to the city, says the economics senator, Elmar Pieroth. After all, as early as 1985 Berlin had an employment potential of 15,000 people in this area.

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CSO: 5500/2647

FRENCH CABLE PLAN FOR OPTICAL FIBERS QUESTIONED

Paris ZERO UN INFORMATIQUE in French 17 Feb 86 p 6

[Article signed by C. P.: "The All Optical Fiber Network Questioned": first paragraph is ZERO UN INFORMATIQUE HEBDO introduction]

[Text] The optical fibers wiring of Montpellier is running somewhat behind schedule. The problems that have arisen are reportedly not just technical.

Louis Mexandeau, who on 6 February 1986 officially inaugurated the optical fiber videocommunications network in Montpellier, insisted on stressing that "the cable plan has become an industrial and commercial reality."

Remember that this plan, defined in 1982, deliberately opted for optical fiber. Thus, "47 memoranda of understanding authorizing studies involving 4.7 million households were signed, followed by 16 general agreements which authorize the deals necessary to wire 2 million homes."

Another piece of information from the PTT [Post, Telephone, and Telegraph] minister: "So far almost 900,000 jacks have been ordered and another 250,000 optical fiber units should be ordered within a month," which will bring the "total to more than 1.1 million jacks (footnote 1) (The order rate should reach 250,000 jacks per trimester. By the end of the year the 2 million mark should be passed.), equally divided between optical fiber and coaxial cable technologies." That was what was said without further clarification. It would be easier to understand in light of a confidential note questioning the "all optical fiber" choice which was sent on 21 January by Francois Gerin, "videocommunications representative (or more simply our national "Mr Cable"), to Jacques Dondoux, general manager of the telecommunications program, and published by our associates at LE POINT.

The reasons? High cost (this technology turned out to be four times more expensive than copper coaxial cable) and delivery deadlines which are generally not met. This offers faint hopes for export.

Conclusion: It therefore seems "premature to order new jacks without being sure that the first mass-produced networks are working well."

Therefore, a division between optical fibers and coaxial cable would be the only way "to ensure the technical and industrial success of the cable plan." Rather annoying for towns which have opted for "all optical fiber" like Montpellier!

Following Biarritz' example, the Languedoc city of Montpellier was proud to be the "world's first city to be uniformly wired commercially." A typical, average French city (with 200,000 inhabitants or 85,000 homes to be "hooked up," in other words, able to subscribe to the network if they want), Montpellier was to be a "showcase for export," according to its Deputy Mayor Georges Freche. The Deputy Mayor wanted to get clear answers from the minister to two major questions: First: "Will the network be operational in June in time for the two scheduled events (the second "Mediaville," a forum on videocommunications, local television, and cable networks, and an international congress of French-language television networks)?" Second: "Will it be possible to start commercial operations in September?"

As far as the delays on the technical level are concerned, "the Velec-CGCT [General Company for Telephone Engineering] is generally to be blamed," indicates G. Freche, who also points out that he obtained commitments from the DGT [General Directorate of Telecommunications] to wire the whole city by the end of 1988, i.e., within 3 years. Having learned that Jacques Dondoux is now proposing an "installation plan stretching out until 1991," he did not hesitate to declare that this was certainly a "sabotage of French industry.... If wiring is stretched out over 5 or 6 years, that means that the Japanese and the Americans will be allowed to pass us in an area where for once they are behind us!"

He adds accusingly that for the last 2 years the DGT has not given the DRT [Regional Directorate of Telecommunications] sufficient resources to meet its deadlines.

Louis Mexandeau answers: that "In order to permit action on all the additional orders we are sure to face, I have instructed the general director of telecommunications to reinforce the DRT's regional services in the Languedoc-Roussillon department." This means primarily reinforcement of personnel, equipment, and research units.

In addition, the minister reassured George Freche by responding positively to his two questions. On the one hand, he assured him that the network will be operational in June and, on the other, that the whole city will be covered by the end of 1989. This would mean a 1-year delay which the mayor has accepted.

On the basis, 55,000 jacks remain to be negotiated, because during the last 2 years the DGT "has never submitted any cable plan beyond that for the first 30,000 jacks"

25033/12851
CSO: 5500/A013

CNET LABS DEVELOPING NEW TECHNOLOGIES, APPLICATIONS

Paris ZERO UN INFORMATIQUE in French 24 Mar 86 pp 62-63

[Article by Eric Sorlet]

[Excerpts] It has become difficult at times to separate telecommunications from data processing. The transfer of government data processing activities to the DGT is proof enough of this. Fulfilling the dual function of research center and technical center of the DGT, the National Center for Telecommunications Research (CNET) has linked these two technologies for a long time.

The CNET is also known for its activities in the field of components, ranging from the reliability of electronic components to technological operations at Lannion, for its research and development in the area of silicon integrated circuits at the Norbert Segard Center in Grenoble and for its research on III-V compounds (gallium arsenide and indium phosphide) at Bagneux. In fact, the increasingly important role played by electronic components and now optical-electronic components in telecommunications equipment has led the CNET to become involved in this area and move beyond the strict domain of telecommunications. Research on data processing itself has already been going on for a long time at CNET. Although it is evident that the CNET has to use powerful data processing tools in its research, whether they be general purpose computation centers or specialized minicomputers, people do not generally know that it is now involved in doing basic research in certain branches of data processing and its applications.

The CNET Must Conduct Basic Research to Fulfill its Primary Missions

Data processing cannot in fact be separated from the center's other activities, even if account is taken of the fact that research on data processing by itself directly occupies some 300 engineers and technicians out of the 2,800 employees engaged in research. Research, however, is still oriented solely on the basis of telecommunications needs, even if its impact goes way beyond this area alone. Research is conducted in order to have the necessary tools and to master data processing technology, whether it be in the field of systems design, software, artificial intelligence or man-machine dialogue.

The example of the SM-90 is significant of this process. For a long time, CNET's Paris-A center has been doing important work designing technical management hardware to monitor operations of the equipment of the telecommunications network. These different "operations devices" were developed around the same "average modular intelligent core" common to all machines, first done for wired logic circuits and then for programmed logic.

The last generation of these machines, in the form of a multiprocessor structure specially adapted to the "real time" problems posed by this type of user, was christened the SM-90, since it took over from the preceding SM-80 family.

Thanks to the assistance of Inria, which has been more or less associated with the project since its start, the SM-90 was enriched with a variety of software which opened it up to new areas of use. Today, the license to build this machine has been transferred to six manufacturers: four that use application systems as a core (CSEE, ESD, Thomson and TRT); Telmat, which markets it in OEM; and, Bull, that manufactures it under the name of SPS7.

This machine still has extensive possibilities for further development: equipped today with 16-bit microprocessors, its 32-bit internal structure will enable it to use 32-bit microprocessors when they come out and thus to increase its power.

The SM-90 is used extensively at CNET to develop other projects. The Concerto software center is an example. Mastery of writing computer programs, an more importantly mastery of operating them, during the life of an automatic switching system is a growing concern. This is what led the Lannion center to launch a "CNET project" for a programming workshop to participate in research on both industrial and material solutions to this problem.

The work station is a structure that enables several users working at the same time to have a unique dialogue mode without having to worry about syntactical constraints in keying different documents. These principles can of course be applied outside the strict domain of telecommunications software.

Advances to be made in solving numerous problems for telecommunications, ranging from speech recognition in the case of multiple speakers, the CAO or how to localize breakdowns, are largely linked to the use of expert systems and recourse to artificial intelligence technology. Thus a number of studies are being conducted in this area at CNET.

Among other projects are the work going on at the Paris-A center on the Prolog programming language and the development by the Lannion center of the Metalislog system designed to correct certain shortcomings of Prolog, such as controlling the deduction process in logic programming.

Based on the Metalog model designed at CERT in Toulouse and introduced in Prolog, the system offers general problem-solving strategies which are more elaborate than Prolog's and, more importantly, it affords the user the possibility of working out his own strategies.

However, in the field of artificial intelligence, the best accomplishment is probably MAIA (machine for IA applications), a joint CNET-CGE project being developed in the laboratories of the Lannion center and the Marcoussis CGE.

Other artificial intelligence technology is applied at CNET in the area of recognition of continuous speech, with SERAC (Expert Acoustical and Phonetic Recognition System). The purpose of this research is to formalize the knowledge currently existing in Keal (a speech recognition system of the TSS division) and to provide ways to maintain and improve this knowledge.

Among other basic research projects in data processing are architectural studies on data processing systems, and particularly distribution and evolutive architecture with the development of the Galaxie operations system, and development of several software devices to aid in specification and validation of software such as the Oasis and Veda systems.

Data Processing Applications Employ some 200 Engineers

Besides basic research, the CNET also does a great deal of work in the field of data processing applications, ranging from signal processing for speech or image synthesis, to computer-assisted design or definition of communication symbols. Two outstanding achievements should be mentioned out of this applied research which today employs some 200 technical engineers.

In the field of creation and visualization of synthesized images, which is one of the specialities of the CCETT at Rennes, a joint CNET-TDF center, research has led to development of a first generation of equipment for production in real time of animated synthesized images which are two dimensional and in color.

Christened the Cubi 7, this modular system makes it possible to create and visualize these images on the basis of data bases and acquisition devices managed by a host computer (for instance SM-90) to which it is connected and in relation to which it is a heavy peripheral. Cubi 7, an independent work station enabling production costs to be divided by 5, is in the form of an image memory with specialized processors, and microprocessors in sections.

The algorism eliminating the 3D hidden parts is wired, which represents a considerable gain for the family of images: less than one second for a series of 2,000 polygons as compared to 15 minutes on a 32-bit mini operating at 1 Mips. The system is supposed to receive the Cristal module designed to speed up computation of images at a very high level of realism for the "beam throwing" method. A multimode operation is also to be included. Transfer of know-how has already been completed with Telmat for the hardware, and with Sesa and Cap Sogeti for the software.

This brief summary clearly shows the importance attached to data processing by CNET and illustrates the growing synergy between telecommunications and data processing. The various research projects also reflect CNET's ambition to play a federative role in government research, to facilitate its transfer to industry.

9805/9312
CSO: 5500/2655

ICELAND

NATIONAL COMPUTER DATA NETWORK BEGINNING OPERATION

Reykjavik FRJALS VERSLUN in Icelandic No 2, 86 pp 41-3

[Article: "Increased Possibilities for Computer Communications"]

[Text] A public computer network or public data transmission network, as it is now called, has been in experimental use by the Icelandic Post and Telegraph Office. It is planned that the system will be put into general use around 1 April. The public data transmission network is similar to the Icelandic telephone system except that computers with their displays and printers replace the telephone equipment and that people will use the data transmission network in another way. Thorvardur Jonsson, chief engineer of the Icelandic Post and Telegraph Office reported on the major aspects of a data transmission network as given below.

New Possibilities

There will be new possibilities for companies and individuals desirous of communicating with others with computers through the data transmission network and many areas will be involved. The Icelandic Post and Telegraph office offered to participate in a common nordic data transmission network in 1979. Connection was established with 70 companies and it was offered to keep them apace of developments and reports were made to their representatives about what was planned. These were representatives of banks, import companies, research institutes and some kinds of service companies, likewise power and communications companies. The interest of these companies was not such for the Icelandic Post and Telegraph Office to establish connections with other nordic countries. Only two or three companies showed interest. The nordic countries, on the other hand, built up their system at that time.

Some time later representatives of four large companies established connection with the Icelandic Post and Telegraph Office to consider the matter again. That was during the years 1982 to 1983. Considerations showed that the companies, that is, the Office of Bank Auditors, SKYRR, the Association of

Icelandic Cooperatives and Icelandair, could establish certain connection between themselves which could be beneficial to them. The discussions ended with the Icelandic Post and Telegraph Office offering to set up a public data transmission network and the representatives of the companies were satisfied with this. As a result, employees of the Icelandic Post and Telegraph Office made preparations to establish a public data transmission network in Iceland.

A 'Parcel' Exchange Net

The headquarters of the data transmission network is in Reykjavik with stations at six places in Iceland: Stykkisholmur, Isafjordur, Blonduos, Aukureyri, Egilsstadir and Hvolsvell. In addition to domestic connections, the stations are connected to foreign data transmission networks and data banks situated abroad. Data transmission networks are 'parcel' exchange or line exchange. The Icelandic data transmission network is a 'packet' exchange, which is more common and involves data traveling between computers in the form of information 'packets.' Each information 'packet' contains information about receiver and sender, the number of the 'packet' and necessary control codes. It is possible for many parties to send 'packets' simultaneously along the same line. The primary advantage of a 'packet' exchange system is that it is possible to connect users with varying baud rates and operating systems and thus there are more possibilities for connections.

In a line data exchange system such we planned to offer in 1979, users at both end of the transmission line have to use the same baud rate and operating system.

The Icelandic Post and Telegraph Office requested bids for equipment for the data transmission network and decided after substantial considerations to purchase the LM Ericsson system. A total of 7 parties made bids and this was the lowest bid. The equipment was installed last May and has operated well. During recent months we have worked at the development of billing equipment. We will discuss below in detail the prospects opened by this equipment.

The most common designation of 'packet' exchange data transmission network is the X25. This is the standard name for the prime interface between the net and users. Computer manufacturers must adjust their equipment for each country and thus Hewlett Packard and IBM have adjusted their equipment to the Icelandic X25 system. Other computer manufactures are working to adjust their equipment at this time. When the computers have been accommodated completely the producers will announce that they can be used in Iceland. The connection of conventional personal computers (PCs) and others using the same transmitter with the data transmission network takes place according to three 'X' standards: X3, X28, X29. They can communicate either directly with one another and with X25 users or by choice through the public telephone system to the data transmission network.

A New Connection with the Outside World

The data transmission network headquarters in Reykjavik serves 140 terminals and stations and the stations scattered around Iceland have a total of 160 terminals. There is an administrative center in Reykjavik for the entire system and all management takes place through it. Connections from Reykjavik will be initially through two 9600 baud lines but it is later planned to put into use 64000 baud lines. Connections with areas abroad will be to London and Copenhagen, and later to New York if there is the need. Moreover, through London and Copenhagen connections may be established with practically the entire world. Through London and Copenhagen it will be possible to establish connections with various data bases and to receive special services connected with data services, data communications and storage. Both companies, which often control large computers, can use this new method and individuals with personal computers. All will need a modem to connect with the data transmission network. Both X25 and X28 or three 'X' users will require a modem of the right kind with regard to baud rate and communications protocol to establish connections with the data transmission network.

Public Electronic mail

Some postal managers and individuals abroad are beginning to operate public electronic mail companies. We may mention in this context British Telecom Gold, One-To-One or Easylink in Britain. Such companies offer companies and individuals electronic mail, which, in addition to allowing them to communicate among themselves, provides users with the additional service of being allowed to send a message to telex users. The telex users can answer the message in their own electronic mail message. The user can consult his electronic mail box from time to time to see whether or not he has received a message. We can expect a good deal of use of the data transmission network in the future in connection with electronic mail.

Subscription Cost 12-33,000 Kronar

The subscription fee for the use of the data transmission network is set according to baud rate and is from 12,000 up to 33,000 for an X25 user, and from 1,150 kronar for storage fees, and a subscription of 7,100 to 14,900 kronar for X28 users. There is also a users fee charged and a quarterly fee, also according to baud rate. This is from 8,000 kronar for a baud rate of 2400, 22,700 kronar for X25 users, and from 575 to 6,000 kronar for X28 users. A set fee of 25 aurar is charged for every message and additional charges are based upon how long the system is used and how much data is transmitted. This fee schedule is lower than, for example, the Norwegian fee schedule. Users in Norway must pay nearly 30,000 kronar as a subscription fee and over 12,000 in users fees per quarter. This is in terms of a baud rate of 2400.

Will Telex Disappear?

The establishment of a data transmission networks, in particular those based upon transmission of information 'packets,' will result in a reduction of telex use in the future. Today there are around 1.5 million telex users in the world and it is expected that these numbers will still increase for 5 to 10 years. The major competitor of telex is the so-called teletex. That is a system based upon computers and 2400 baud rate transmissions through a data communications net. This baud rate is 48 times greater than the 50 baud rate of telex. In standards and rules for teletex provision is made for conversion exchanges to be established between the telex net and the data communications systems of each country. This would make code transmissions possible between teletex and telex users.

In Iceland there has recently been a considerable decrease in telex fees and on 1 July, 1984 subscription costs and quarterly users fees fell considerably. On 1 February telex fees to the United States decreased by more than 30 percent and to Canada by around 50 percent. This is in connection with the fact that agreements with the largest nordic telegraph company ran out at the beginning of this year.

It is planned that the telex net will increase until 1990 or 1995 here in Iceland, but later shrink. During the last two years there have been requests by various telex users to allow them to use the conventional computers available in companies for sending telex messages. The Icelandic Post and Telegraph Office is now testing two kinds of equipment which could be installed between the computer and telex systems to make this possible. Later in this year the Icelandic Post and Telegraph Office will bring into Iceland a teleprinter with a hard disk memory and connections to both the computer and telex nets. The telex system will then be able to send to the teleprinter hard disk instruction as to what time the teleprinter should transmit the telex message.

9857
CSO: 5500/2650

TELECOMMUNICATIONS AGENCY BUYING NORWEGIAN AUTOMATED EXCHANGES

Reykjavik MORGUNBLADID in Icelandic 2 Apr 86 p 22

[Article: "Icelandic Post and Telegraph Office Buys individual Telephone Exchanges for 30 Million Kronar"]

[Text] The Icelandic Post and Telegraph Office has proceeded with one of the largest agreements that it has every made with a single company. It involves the purchase of automated individual telephone exchanges. According to this agreement, the Icelandic Post and Telegraph Office will purchase the individual exchanges from Elektrisk Bureau A/S for around 30 million Icelandic kronar next year.

This agreement marks a decided turning point, it says in a press release from the Icelandic Post and Telegraph Office, since through such a large scale purchase the Post and Telegraph Office can offer its customers telephone exchanges at a much lower cost than has previously been the case. Installation delays will also be cut considerably.

The Elektrisk Bureau A/S company is recognized as a producer of telephone equipment and the Icelandic Post and Telegraph Office has had repeated contact with this company since 1932, when the first automatic telephone exchanges were purchased from it.

The private telephone exchanges, the purchase of which has now been agreed upon, have the brand name FOX and come in three sizes, that is, having maximums of 60, 130 and 200 numbers. They can transmit both sound and computer symbols. The exchanges are constructed in units. This means that the exchanges may be customized according to the needs of each customer. The new exchanges are easier to install and maintain and cheaper, its says in the news release.

9857
CSO: 5500/2650

NORWAY

BRIEFS

NORWAY READIES FOR ERS-1--Tromso, 5 April--The Tromso Telemetry Station changed over into a private business establishment at a statutory council meeting yesterday. Parallel with the changeover to business establishment, the station enters a phase of extensive enlargement which will make it possible, among other things, to gather in data from the European satellite ERS-1. The changeover to a private establishment is closely related to the forthcoming enlargement. The data from ERS-1 will be of such great commercial interest that people feel a private, self-supporting establishment will be the best and most flexible organizational form. The new station is being founded by seven cabinet ministries, with the Ministry of Industry in the vanguard. The ERS-1 satellite that will furnish the Tromso station with important data will be launched in 1991. The new data-reading equipment will be installed by that time. Alongside the construction costs, there is talk about investments of 45 million kroner. Today the most interesting areas of application of the data from the Tromso Telemetry Station are maritime positioning, localization of emergency radio beacons, production of geographic material, research, surveillance of resources and marine provinces. Conversion of the Tromso Telemetry Station into a private establishment is one of this spring's three major milestones which will become important for Norway as a space-travel nation. Before the onset of summer, the Parliament will also consider a bill which proposes that Norway become a full-fledged member of the European Space Agency (ESA), and a report on the country's activity in space up until the year 2000 will be submitted to the Parliament. [By Erik Veigard] [Text] [Oslo AFTENPOSTEN in Norwegian 7 Apr 86 p 8] 12327

CSO: 5500/2665

SWEDEN

ERICSSON SEEN PLANNING MEASURES TO IMPROVE PROFIT PICTURE

Stockholm DAGENS NYHETER in Swedish 27 Apr 86 p 12

[Commentary by Sven-Ivan Sundqvist]

[Text] The Ericsson concern is not in a crisis situation, but it is having a hard time. Profit trends have this year come to a standstill at a low level. The management will now have to adopt quite a few measures but will have to carry them through in such a manner as not to eliminate any long-term possibilities of profit growth.

Ericsson's annual report was in the past week sent to approximately 70,000 shareholders. There may be reason to pause and take the pulse of the Ericsson concern via the annual report and via a number of interviews with the management of the concern.

From having been the second-highest evaluated enterprise on the Stockholm Stock Exchange, Ericsson has in the last 2 years dropped to the eighth place (following Volvo, Asea, Electrolux, Saab-Scania, S-E-Banken, Astra and SCA).

Bjorn Svedberg, managing director, has a couple of difficult years behind him and probably a couple of hard years ahead of him. Ericsson has made substantial errors in forecasting and has considerable sources of loss.

Present Situation as Point of Departure

The examination by DAGENS NYHETER of Ericsson's economic situation may be undertaken on the basis of the present situation or with its long-term economic situation as point of departure. We shall start with the present situation. And will, unfortunately, not be able to go beyond that today. We shall have to revert to the long-term possibilities of recovery. According to Ericsson's own ambitious long-term forecasts, when fully recovered, the concern should be able to achieve a profit level of around 3 billion kronor. The present profit level is around 1 billion kronor.

Our point of departure for our profit analysis and profit prognosis is invariably the profits of the different sectors of business of the concern. They provide the needed information. They show the profit picture.

The table included in this article shows Ericsson's own profit calculations for 1985 and DAGENS NYHETER's prognosis for 1986. The column for 1986 gives a falsely precise impression. We might as well include a plus and minus range of 20 percent under each item.

The fact that I, nevertheless, show only one figure will, if anything, have to be interpreted as a measure of accuracy to emphasize the trend of the individual items and the magnitude of the changes.

The Various Items

Now a few comments on the table. We shall examine the items one by one.

1. Public Telecommunications. This is Ericsson's major source of profits, with the AXE exchanges as the mainstay. The margins are pushed downward in 1986. The AXE venture in the United States continues to involve big development costs without any profits on the local-exchange side until 1988, at the earliest. The OPEC countries get less funds for new telephone investments. I believe that the net outcome will be that the profits for this business sector will decline somewhat.

2. Information System. This is the big bleeding wound with 806 million kronor in loss before interest earnings in 1985. Surplus capacity, production problems, delays, severe competition and collapse for Ericsson's personal computers in the United States have affected the profitability level. The management has put a zero financial result as the firsthand goal for 1986. I am somewhat more pessimistic and believe in a loss in 1986 of approximately 100 million kronor.

What may possibly speak for a zero result is the "Sandvik variant," i.e., the fact that Ericsson has depreciated more than was needed in 1985. Last year, therefore, looks much worse than it may have been. If that is the case, Ericsson will get it back in 1986 and in the future. However, the information side is a difficult sector, and I do not believe in God until I see him.

3. Cable Sector. The cable sector, which this year has a turnover of close to 5 billion kronor, consists largely of power cables (40 percent) and telecommunications cables (50 percent). Cables are difficult to perceive as an exciting product. However, the word cable is deceptive. The optic cable--the one needed for the new telecommunications network, simultaneous figures and data, to increase the capacity in existing networks--makes the cable sector a dynamic area. It replaces at an increasingly faster rate the traditional copper cable as telecommunications cable.

The annual report does not show in figures the share in total cable sales of the optic cable. It is therefore somewhat difficult to determine its significance.

The turnover of the optic cable in the United States increased sharply in 1985. The optic cable may in total account for approximately 30 percent of the U.S. turnover, which, in turn, accounts for approximately one third of the entire cable sales of the concern.

Signals from Ericsson indicate that the significant increase in results in 1985 within the cable sector has resulted in a profit level which may be maintained in 1986.

4. Radio Communciations. This business sector is specializing increasingly in mobile telephone systems. successful orders are put in flow-line production. The other week in Los Angeles. Now in a total of 22 countries. Here the same comment applies as under cables. It should be possible to maintain the profit level in 1986.

5. Other Business Sectors. Here are four business sectors without any spectacular changes in profit levels, except for the last "waste item." Since several of these other activities were eliminated in 1985, we put a zero result for this item.

6. Line 6 in the profit table adds the real earnings and deducts what, by definition, becomes the joint costs of the concern. Here I project a lower level of real profits and the same level for joint costs of the concern in 1986.

Lower in 1986

Our review thus gives a profit result before net interest earnings of roughly 2 billion kronor for 1986.

The finance net amount later reduces the total result considerably. Interest costs should in 1986 become somewhat lower than in 1985 since interest levels, of course, are declining all over the world. Perhaps less 900 million kronor in 1986.

Profit shares. This item comprises Ericsson's shares in companies where Ericsson has big interests but no voting majority. The most important profit shares are:

Country	Percentage of Share Capital
Brazil	59
Mexico Cable	39
Thorn Great Britain	49

The shares in the profit results in 1985 dropped toward 100 million kronor, primarily because of the deterioration in the situation in Brazil (where Ericsson has a voting share of 26 percent). The profits from these shares in the profit results ought to increase somewhat in 1986. We project 70 million kronor in total.

Minority Shares. Here we encounter a major negative change for 1986 compared with 1985. Minority shares mean that there are a number of subsidiaries where Ericsson owns upwards of 50 percent but not 100 percent. The share of the minority interests in the profits of the subsidiaries will, of course, have to be deducted from the total profit result of the various sectors of the concern (items 1 to 5 in table), seeing that these results include 100 percent of the profits of the not fully owned subsidiaries.

But how is it then possible for the minority item for 1985 to show plus 159 million kronor? This ought presumably to be a minus? The reason is that the subsidiary, Ericsson, Inc. in the United States which, in 1985, was not fully owned, had a loss in 1985 of 700 million kroner. These 700 million kronor have for 100 percent "affected" the result of the business sectors of the concern under items No. 1 to 5. But since the American enterprise Atlantic Richfield owned 50 percent of Ericsson, Inc. in 1985, 50 percent of the loss of Ericsson Inc. is included as a plus item under the minority item.

Moderately Better

Subsequently, other "usual" minority shares of 191 million kroner are deducted, so that the net profits for 1985 of all minorities becomes + 159 million kronor.

The changes in the ownership in the United States as of 1986 are thus reflected negatively under the minority item for 1986 by the amount of 359 million kronor if my prognosis is fulfilled.

This brings us to the last item. If all of the figures are added up for 1986, this year becomes moderately better than 1985. In other words, it becomes a weak result, just under 1 billion kronor. It should, however, be noted that the only thing I do not know for certain about 1986 is that the profit result will not be just 970 million kronor.

The next time we shall have the occasion to examine the prognosis figures will be after the publication on 28 August of the semiannual report.

Ericsson on Ericsson

Self-criticism

1. The capital accumulation is still unsatisfactory and in 1986 priority is given to the efforts to reduce the working capital to an acceptable level.

2. Correcting the problems which arose in the course of 1984 thus became a more complex task and required more resources than we had reason to expect 12 months ago.

3. The adjustment of the AXE system to American requirements and standards takes longer than estimated.

4. The vision of "the office of the future" which guided the sector proved more remote than many believed.

5. It had a particularly negative effect on Ericsson when problems of development and production within important production areas, such as office

switchboards MD110, Ericsson's personal computers and advanced banking systems, caused enormous delivery delays.

Self-praise

1. Our strong competitive position within the area of AXE was evident in the course of the year, enabling us to sign a prestigious and comprehensive contract with British Telecom.

2. The AXE system has considerable strength in its modular structure and its unique possibilities of adaptation to new telecommunications services.

3. All of our products within the information system sector now have the performances required in the competition.

4. In 1985, Ericsson further strengthened its position as the world's leading supplier of systems for mobile telephones.

5. Within important areas, such as radio communications and cables, we have shown that the trend may be reversed in a short period of time.

Profit Results 1985, 1986

Table in Million Kronor	Results After Depreciations	
	1985	1986
1. Public telecommunications	1,282	1,200
2. Information systems	- 806	- 100
3. Cables	336	350
4. Radio communications	253	300
5. Defense products	178	180
Network construction	154	150
Components	22	20
Other	83	0
8. Real profits net	+ 333	+ 100
Joint costs of concern	- 198	- 200
Total business activities	1,637	2,000
- Finance net	- 953	- 900
= Result after finance net	684	1,100
+ Shares in profits of other companies	+ 35	70
- Minority shares	+ 159	- 200
= Profits before allocations	878	970

Note: The figures for 1985 come from Ericsson's annual report, whereas the statements for 1985 are DAGENS NYHETER's prognoses.

7262
CSO: 5500/2669

SWEDEN

BRIEFS

FRG TUBES FOR TELE-X--Vital parts of the transmitters of the Tele-X satellite do not come up to expectations. The French-made travelling-wave tubes will be replaced. "They are not ready for use in space," says Sven Grahn of Rymdbolaget. Instead, German tubes will be used. The Swedish Rymdbolaget has long questioned the reliability of Thomson-CFS' travelling-wave tubes. They reinforce the data and TV signals from the earth before they are retransmitted. The main supplier of the satellite, Aerospatiale, has now decided to replace the six French tubes by West German tubes, manufactured by AEG-Telefunken. The effect will remain unchanged. "We have on several occasions pointed out to Aerospatiale that the tubes from Thomson-CFS do not meet with our requirements," says Sven Grahn. Already in 1984, the launching of TDF-1, the French equivalent to Tele-X, was delayed on account of sudden transmission breakdowns in the tubes. Those problems are today regarded as having been solved. Instead, it is now a question of the overall quality and life of the series-produced tubes. From a technical point of view, the AEG-Telefunken tubes are not as sophisticated as those produced by Thomson-CFS. But it is believed at Rymdbolaget that they will work. Even in TV-SAT-1, the West German equivalent to Tele-X, they are abandoning the French tubes. Instead of a mixture of three West-German and three French tubes, they will now use six tubes from AEG-Telefunken. The entire European space industry is now anxious to find out what the French will do about their own satellite, TDF-1, which is scheduled to be launched at the end of this year. Tele-X is scheduled to be launched into space in June-July of 1987. [Text] [Stockholm NY TEKNIK in Swedish 10 Apr 86 p 2] 7262

CSO: 5500/2663

END

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24 JUNE 1986

Worldwide Report

TELECOMMUNICATIONS POLICY, RESEARCH, AND DEVELOPMENT

FBIS FOREIGN BROADCAST INFORMATION SERVICE

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WORLDWIDE REPORT

TELECOMMUNICATIONS POLICY, RESEARCH AND DEVELOPMENT

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AUSTRALIA

BRIEFS

SOUTH PACIFIC AUSSAT-III USE-Australia's minister for foreign affairs, Mr Hayden, has said the countries of the South Pacific Forum missed out on the use of an Australian satellite transponder for telecommunications and broadcasting because they were too slow in submitting a proposal. Australia had offered members of the forum a 30-watt transponder on Aussat-III, which has yet to be launched. Speaking in the Western Samoan capital, Apia, Mr Hayden said the Australian Government had required the forum countries to submit a collective proposition by the end of March, but they had failed to do so. Mr Hayden said the government had since decided to consider another offer for the use of the transponder. He added that there were other weaker transponders still available on the satellite if the forum nations were interested. [Text] [Melbourne Overseas Service in English 0830 GMT 17 Ma6 86 BK] /6662

CSO: 5500/4330

COMMUNICATIONS MINISTER ON TELEPHONE, BROADCAST POLICIES

Regional Phone Policy

Vancouver THE SUN in English 13 May 86 pp D1, D3

[Article by Peter O'Neil]

[Text] A new Canadian policy on the issues of competition and rate restructuring in the telephone industry won't be forced on every part of the country, federal Communications Minister Marcel Masse says.

Masse said he is working with the provinces, the telecommunications industry and consumer groups to ensure that a new policy reflects Canada's "regional" needs.

"Perhaps competition is good in Ontario . . . but is not possible in Prince Edward Island," Masse told reporters in Vancouver Monday.

"We feel we shouldn't try to oblige every part of the country to enter into a single series of guidelines."

Masse, who has met several times with provincial representatives since last fall, has been trying to develop a policy on two key issues — allowing competition between private companies and the regulated monopolies in the long-distance service area; and allowing the telephone companies to restructure rates — raising local charges and dropping long-distance tolls — to better reflect the costs of providing each service.

These moves have been supported by certain industry segments but opposed by groups like the Consumers Association of Canada, which opposes higher local rates.

Masse said he has reached agreement with the provinces on four basic principles:

- That Canadians must have universal access to local telephone service at "affordable" rates.
- A national policy must be made "the Canadian way" — by political consensus as opposed to the U.S. method where the telephone system was deregulated as a result of a court decision.
- The benefits of a new telecommunications policy should spread to "everybody . . . meaning individuals as well as groups."
- The Canadian telecommunications industry has to remain competitive both inside Canada and in foreign markets.

The final point is an important recognition for the Canadian telecommunications industry. Bell Canada and B.C. Tel say rate restructuring would allow the industry to thwart a possible "bypass" threat — whereby companies in the deregulated U.S. market begin offering cheaper long-distance service to Canadian businesses. And CNCP Telecommunications and private telecommunications suppliers have argued that competition within Canada would increase Canada's competitive ability internationally.

The Canadian Radio-television and Telecommunications Commission ruled against allowing competition and restructuring last September, but recognized that both are issues that must continue to be addressed because of the potential impact on the Canadian industry.

The provinces, primarily Manitoba, pushed the federal government to add two further principles to the four original developed, Masse said.

- The telecommunications industry should be an instrument of regional economic development, so research should be done in a number of regions — rather than just in Toronto, Montreal and Vancouver.
- A telecommunications policy must be developed by governments, not the CRTC. Masse said Monday he won't let the CRTC, which is currently considering an appeal of one element of its September decision, play a role in the development of a new national policy.

Broadcast Policy Changes

Vancouver THE SUN in English 14 May 86 p E1

[Article by Lee Bacchus]

[Text]

The federal government must change its broadcast policies to help Canadian cultural interests, Federal Communications Minister Marcel Masse said Tuesday.

In a speech to about 600 delegates of the Canadian Cable Television Association at the Hotel Vancouver, Masse said there have been great and rapid changes made in broadcast technology, and that Canadian cultural industries must be given a fair chance to compete in the "global marketplace."

Masse referred to the ongoing dispute between cable companies and operators of unlicensed satellite receiving systems, which import high-profile U.S. pay networks such as Showtime and The Movie Channel without CRTC approval.

He recognized the cable association's claim that $100 million annually is lost through unlicensed systems and said the current broadcast act "does not have the precision to ensure that broadcast undertakings are treated in a fair and equitable manner."

Masse said the new broadcast reforms, which will be part of the long-awaited passage of Bill C-20, would not force satellite dish owners to shut down, "as long as they are willing to be part of the system."

"Our intention is not to bar others [foreign broadcasts] from our market," he said. "Canadians must have a full range of the cultural products the world has to offer."

Masse said the government's intention was to foster Canadian cultural interests so they could compete and earn a full and equitable share of the broadcast market.

/9274
CSO: 5520/82

CANADA

GOVERNMENT FUNDING PLANS FOR MSAT ANNOUNCED

Ottawa THE CITIZEN in English 13 May 86 p B3

[Text] The federal government will spend up to $176 million to develop and later to lease time on a new satellite that could drastically change the way Canadians communicate, especially in remote and coastal areas, a trio of cabinet ministers announced Monday.

Communications Minister Marcel Masse, whose department developed the device, Science Minister Frank Oberle, who is in charge of the Canadian space program, and Mines Minister Robert Layton all got in on the announcement, made via satellite link between Ottawa and Vancouver.

The mobile communications satellite — MSAT in the industry jargon — will be financed and operated by Telesat Canada Ltd., the part-government, part-private company that operates the Anik line of Canadian commercial satellites.

Negotiations are continuing with communications companies in the United States for construction and operation of sister satellites that will extend the system's coverage over all of North America.

Telesat Canada will raise some $260 million to pay for MSAT and for the development of ground stations needed to operate the system. Planners expect MSAT to be launched in the early 1990s, probably by the U.S. space shuttle.

The federal government will spend $50 million over the next seven years to provide technology and product development support, and has pledged to lease up to $126 million worth of time on the satellite over five years for use in "vital government communications."

MSAT will be one of the most powerful communications satellite ever built. It will enable users with very small dishes to communicate over huge areas of the north, in remote or coastal areas, or even in cities. Two-way radio, telephone and data services are all possible on MSAT.

Eventually, users will be able to buy ground equipment for links to MSAT for about $4,500 each and rent air time on the satellite for about $1.50 a minute.

Market studies have suggested the system will attract 100,000 users by the year 2000 and that it will pay for itself. Masse suggested that federal taxes collected from commercial sales of satellite time will be worth more than the government's initial investment.

The highest estimate of the satellite's eventual use, and spin-offs from its development, predicts $2.4 billion worth of foreign and domestic sales and the potential creation of more than 1,000 jobs by the year 2000. There are some higher estimates of MSAT's job-creation potential, but they are so far highly speculative.

The government says the satellite, by making it easier for Canadians to travel and communicate from remote areas, will also help reinforce national sovereignty in the Arctic.

But it is the commercial aspect of MSAT that makes it so attractive to the government. Monday's announcement indicates MSAT has successfully crowded aside a competing project to design and build a remote-sensing satellite for use by mappers, miners and energy companies.

Planning for the remote-sensing satellite, or Radarsat, will continue. But the need for almost $400 million worth of investment by Ottawa before it can proceed helped to tip the balance toward MSAT in the budget-conscious Conservative cabinet.

In a news release accompanying the announcement, Masse described MSAT as "the only portion of the Canadian space program that will proceed as a private-sector initiative."

It said work will continue on Radarsat, brainchild of the department of Energy, Mines and Resources, "with the objective of obtaining financial commitments to the program from the private sector, provincial and foreign governments."

But even with the private-sector support, government's investment in all aspects of the Canadian space program, including participation in the U.S.-led space station program, will amount to some $984 million between now and 1990-91.

/9274
CSO: 5520/81

CANADA

SPACE, SATELLITE SYMPOSIUM HELD WITH JAPANESE

Toronto THE GLOBE AND MAIL in English 27 May 86 p B13

[Text]

TOKYO

Officials from Canada and Japan have begun meetings to try to increase business and co-operation between the space industries of their countries.

The Canadian space symposium, which began yesterday, brings together businessmen and officials of the Canadian and Japanese governments.

Robert Bower, a federal official who leads the Canadian delegation, said the space industries of Canada and Japan are complimentary. Canada offers specialized technologies, and Japan operates within a wider range.

The Japanese program includes satellite technology and space research.

Of particular interest to Canada is the Japanese National Space Development Agency launch system.

Mr. Bower, a senior adviser for the Department of Regional Industrial Expansion, said he would like the Japanese agency to be used as an additional system for launching Canadian satellites. Canada currently uses the U.S. and European space agencies for launching.

The Canadians in Japan this week include representatives of most of the major companies in the Canadian space industry as well as officials from three federal Government departments — Regional Industrial Expansion, External Affairs, and Science and Technology.

The symposium ends on Friday. Members of the business group will stay in Japan until the following week for private meetings with Japanese companies.

/9274
CSO: 5520/82

NORTEL SIGNS CONTRACT WITH NTT, AGREEMENT ON ISDN R&D

Switching Equipment to NTT

Toronto THE TORONTO STAR in English 20 May 86 p E8

[Text]

Northern Telecom Inc. has announced the signing of a contract with Nippon Telegraph & Telephone Corp. of Tokyo to provide telephone central office switching equipment worth more than $250 million.

The agreement calls for the supply of DMS-10 digital switching systems, manufactured in North Carolina. Northern Telecom Inc. is the U.S. subsidiary of the Toronto-based telecommunications equipment manufacturer.

The initial shipment will be in 1987, with large volume deliveries beginning in 1989.

In other contracts and business arrangements:

Combustion Engineering Canada Inc., a subsidiary of Combustion

ISDN Agreement With Motorola

Toronto THE GLOBE AND MAIL in English 22 May 86 p B13

[Text] **Northern Telecom Ltd. of Mississauga, Ont., and Motorola Inc. of Schaumburg, Ill., say they will collaborate in the research and development of a new family of semiconductor components for use in an Integrated Services Digital Network.**

The ISDN network is a set of standards for a large, world-wide digital link of voice, text, graphics and video communications. All makes and varieties of equipment could use the network.

Under the agreement, Northern Telecom will provide network and system architectures, semiconductor device specifications and network testing and evaluation results.

Motorola will provide design expertise in advanced semiconductor technology and offer the semiconductors to other manufacturers.

/9274
CSO: 5520/83

CANADA

NEW STATIONS, CONTROL CENTER TO EXPAND SARSAT OPERATIONS

Toronto THE GLOBE AND MAIL in English 20 May 86 p B7

[Article by Ken Romain]

[Text]

Canada will have another three ears on the ground to catch distress signals from space sent by downed aircraft, missing fishing vessels and lost hunters.

Three ground receiving stations are to be built — in Edmonton, Churchill, Man., and Goose Bay, Nfld., — to complement one already in operation in Ottawa, as the country expands its Sarsat operations. A new search and rescue mission control centre is to be built at the Canadian Forces Base at Trenton, Ont.

The stations will expand satellite signal coverage over all of Canada. These "local user terminals" will receive signals from polar orbiting satellites that pick up distress signals from emergency locator transmitters aboard aircraft, ships, or from hunters or trappers carrying personal user beacons.

The stations quickly compute the location of the transmitters, using the Doppler shift, and transmit the information to the present Search and Rescue Mission Control Centre at Trenton. The centre dispatches rescue aircraft to the accident site.

Since the Sarsat operation began as an international experiment in 1983, 75 "saves" have been made in Canada. The incidents involved 193 people, of whom 163 survived. Rescue incidents internationally total more than 590.

"Sarsat (search and rescue satellite aided tracking) has been more successful than anyone ever anticipated when we started," said Lee Anstey, senior Sarsat engineer with the Department of National Defence, which directs operations in Canada.

Developed to locate aircraft in distress, the emergency locator transmitters have been increasingly used by civilians. A recent expedition to the North Pole carried an ELT. It was switched on for a few minutes every day to signal the satellite to announce the expedition's day-by-day location.

A climbing expedition that scaled Mount McKinley in Alaska also carried an ELT, in case disaster struck.

Last year, two canoeists had the foresight to carry an ELT with them on a trip down the Winisk River in northwestern Ontario. Their craft overturned, leaving them stranded. The emergency signal was quickly picked up by a satellite, relayed to the ground and the canoeists were rescued by aircraft. A lost hunter and two lost trappers have also been saved in this way.

Four people were found, three badly injured, after their aircraft crashed last year north of Schefferville in northwestern Quebec. The transmitter alerted rescue forces via the satellite. A rescue team parachuted in to aid them, and they were taken out by helicopter. Most aircraft flying in Canada now carry ELTs.

Canada was a prime mover behind the development of Sarsat, carried out in partnership with France and the United States, with the Soviet Union participating. Britain, Norway and Sweden are associates.

The Soviet Union provides three satellites, known as Cospas. The United States provides two satellites — one of which was recently shut down, with another scheduled to be launched this summer. There is full compatibility between the Soviet and Western systems. Other countries, such as Brazil, are expressing interest in the program.

Sarsat's purpose was to demonstrate that satellites can greatly improve search and rescue operations by providing quick and accurate location data for aircraft and ships in distress.

Transmitters operating on the 121.5 megahertz band bring rescue aircraft within a 20- to 25-nautical-mile radius of any location. More accurate 406 Mhz transmitters bring aircraft to within five nautical miles.

The technological spinoff for Canadian aerospace companies has been significant. Canadian Astronautics Ltd. of Ottawa will build the three new ground receiving stations. It built the one at Ottawa, the three now operating in the United States and has a contract to build a ground receiving station for Brazil.

Spar Aerospace Ltd. of Toronto builds the transponders that relay the transmitter signals from the satellite to the ground. Bristol Aerospace Ltd. of Winnipeg has developed the first commercial emergency transmitter to operate on the 406 Mhz band. SED Systems Ltd. of Saskatoon built the prototype mission control unit in operation at Trenton and will build the new one.

As other countries join the international rescue program, these companies expect they will be able to gain a share of the developing market with their Sarsat expertise.

/9274
CSO: 5520/82

CANADA

FIRMS ALLOWED TO DEAL WITH TELESAT DIRECTLY

Toronto THE GLOBE AND MAIL in English 9 May 86 p B12

[Article by Lawrence Surtees]

[Text]

The Canadian Radio-Television and Telecommunications Commission has approved a new agreement between Telesat Canada and the telephone companies that gives business users a break in dealing with the only domestic satellite carrier.

Business customers may now lease satellite services directly from Telesat. But, in return for severing the marketing link with the telephone companies, Telesat will no longer be entitled to subsidy payments from its nine fellow members of Telecom Canada.

The CRTC was asked last July to approve the changes to the 1976 agreement that made Telesat a member of the Telecom Canada consortium (then named Transcanada Telephone System). The previous agreement required any customer to obtain access to Telesat satellites through the telephone company.

In return for being made a wholesaler, Telesat was guaranteed a profit. If it could not make a profit on its own, the 1976 agreement required the Transcanada Telephone System members to pay it a subsidy that would allow it to realize a rate of return on average common equity equal to the average of the two largest phone companies.

The effect of the changes is to force Telesat to make it financially on its own, which it believes it can do through the removal of marketing constraints.

Telesat wanted the changes because it believes they will increase the use of its five orbiting satellites and lead to the development of new services.

Business users have argued for the change since 1977. The federal Cabinet altered the agreement in 1981 by allowing broadcasters to deal directly with Telesat.

Telesat moved for a total break from the telephone companies in late 1984 after they cancelled a market trial of a satellite-based business service, Telesat president Eldon Thompson said earlier this year. It has embarked on a drive to encourage the use of private satellite networks and hopes to more than double revenue from business customers by 1990, to $100-million from $45-million a year.

/9274
CSO: 5520/81

MITEL REPORTS LOSS IN LATEST FISCAL YEAR

Toronto THE STAR in English 21 May 86 p E3

[Text]

Mitel Corp., the troubled manufacturer of telecommunications equipment that came under British control in March, has reported a net loss of $160.2 million in its latest fiscal year.

The loss for the year ended March 28 included extraordinary losses of $62.8 million as the company, based in Kanata near Ottawa, completed a major restructuring.

The per-share loss was $2.56 before extraordinary items and $4.12 after. The previous year's net loss was $32.1 million, or 98 cents a share.

President Anthony Griffiths said in a news release yesterday that many surplus assets were written off during the year in the course of the management and organizational restructuring. But Mitel received a cash infusion of $322 million when British Telecom acquired 51 per cent control March 11.

"These major changes have resulted in the company going forward in the current fiscal year with a strong balance sheet, a major new equity partner, and a positive new start," Griffiths said.

The loss for the fourth quarter, including extraordinary items, was $116.7 million, or $2.88 a share, of which $85.2 million was the result of extraordinary, unusual and inventory items.

A year earlier, net profit in the fourth quarter was $64,000. Revenue in the latest period was $110.3 million, against $107.5 million.

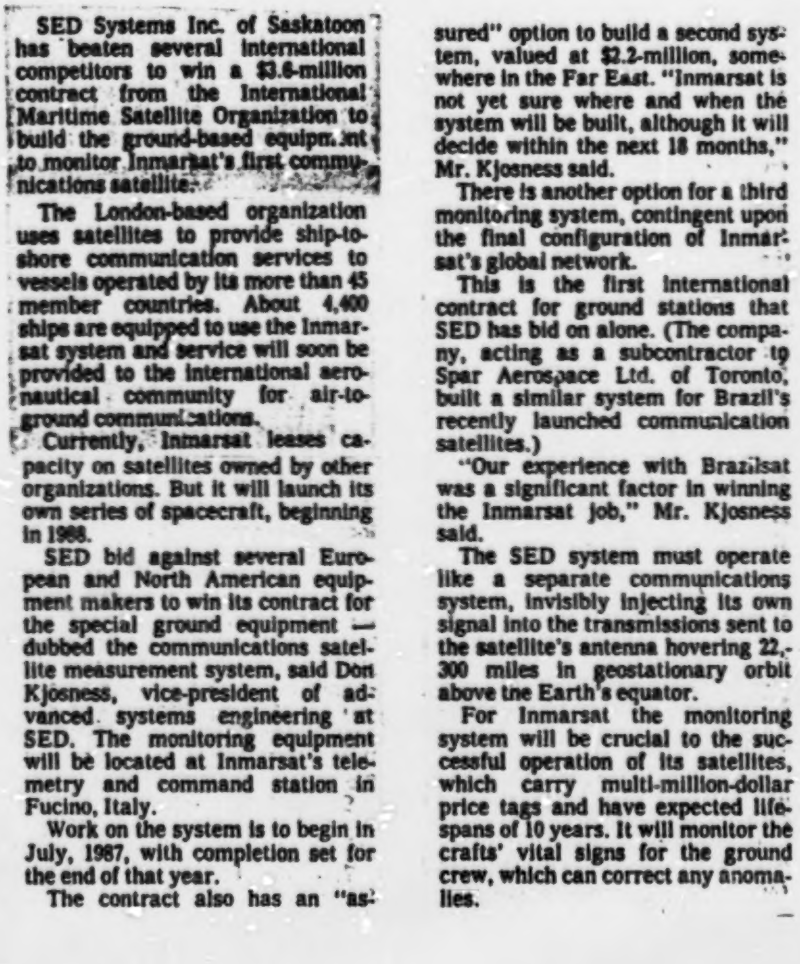
/9274
CSO: 5520/82

SASKATOON FIRM SELECTED TO BUILD INMARSAT EQUIPMENT

Toronto THE GLOBE AND MAIL in English 12 May 86 p B4

[Article by Lawrence Surtees]

[Text]



SED Systems Inc. of Saskatoon has beaten several international competitors to win a $3.6-million contract from the International Maritime Satellite Organization to build the ground-based equipment to monitor Inmarsat's first communications satellite.

The London-based organization uses satellites to provide ship-to-shore communication services to vessels operated by its more than 45 member countries. About 4,400 ships are equipped to use the Inmarsat system and service will soon be provided to the international aeronautical community for air-to-ground communications.

Currently, Inmarsat leases capacity on satellites owned by other organizations. But it will launch its own series of spacecraft, beginning in 1988.

SED bid against several European and North American equipment makers to win its contract for the special ground equipment — dubbed the communications satellite measurement system, said Don Kjosness, vice-president of advanced systems engineering at SED. The monitoring equipment will be located at Inmarsat's telemetry and command station in Fucino, Italy.

Work on the system is to begin in July, 1987, with completion set for the end of that year.

The contract also has an "assured" option to build a second system, valued at $2.2-million, somewhere in the Far East. "Inmarsat is not yet sure where and when the system will be built, although it will decide within the next 18 months," Mr. Kjosness said.

There is another option for a third monitoring system, contingent upon the final configuration of Inmarsat's global network.

This is the first international contract for ground stations that SED has bid on alone. (The company, acting as a subcontractor to Spar Aerospace Ltd. of Toronto, built a similar system for Brazil's recently launched communication satellites.)

"Our experience with Brazilsat was a significant factor in winning the Inmarsat job," Mr. Kjosness said.

The SED system must operate like a separate communications system, invisibly injecting its own signal into the transmissions sent to the satellite's antenna hovering 22,300 miles in geostationary orbit above the Earth's equator.

For Inmarsat the monitoring system will be crucial to the successful operation of its satellites, which carry multi-million-dollar price tags and have expected lifespans of 10 years. It will monitor the crafts' vital signs for the ground crew, which can correct any anomalies.

/9274
CSO: 5520/81

BRIEFS

ELECTRONIC MAIL SERVICE EXPANSION--Canada Post has expanded its electronic mail service to include Italy, India, New Guinea and Spain. The service, called Intelpost, can transmit a legal-size page to Italy within minutes for a $5 fee. Prices vary for the 54 countries now served by Intelpost. Transmitted material may be picked up at selected post office locations or delivered within hours by "express mail service" within a few hours. Another new service of Canada Post is the publication of a color brochure written in Chinese to help immigrants become more aware of the advantages of first-class mail, registered mail, special delivery and Priority Post, the courier service. It also gives tips on packaging parcels, explains how to fill out customs declaration forms and send a money order abroad. [Text] [Toronto THE TORONTO STAR in English 15 May 86 p A6] /9274

CSO: 5520/81

BRIEFS

GDR-USSR BROADCASTING AGREEMENT--A protocol on cooperation between the GDR State Committee for Broadcasting and the USSR State Committee for Television and Radio was signed in Moscow today. The agreement, which provides for increased exchanges of programs in realization of party resolutions, was signed by the chairmen of the institutions, Achim Becker and Aleksandr Aksenov. Joint projects for the 750th anniversary celebrations of Berlin, as well as in intensified exchange of music programs, are also planned. [Text] [East Berlin Voice of GDR Domestic Service in German 1700 GMT 16 May 86 LD] /12232

CSO: 5500/3010

ANTIGUA AND BARBUDA

UNFAIR GOVERNMENT CONTROL OF RADIO, TV CHARGED

St Johns OUTLET in English 25 Apr 86 p 8

[Editorial: "Not on Our Radio and TV"]

[Text] When V.C. Bird, Prime Minister of Antigua and Barbuda declared that Tim Hector and Harold Lovell were not to be heard on "our Radio and TV" few people recognised that this country had taken a giant stride towards totalitarian control.

Several people during and since the Blackwash of England on their just completed cricket tour, have written and asked why Tim Hector was not a commentator. Few remembered that he was not to be heard on "our Radio and TV."

English commentators expressed their dismay aloud that Tim Hector was not a commentator in Antigua. They were told that he was not to be heard "on our Radio and TV."

When the ban on ACLM was imposed, Tim Hector had been asked by the **National Emancipation Committee** to give a series of three talks on Slavery and Emancipation on Television and Radio. He had spoken on one programme without any reference whatsoever to local politics. After that, he was officially silenced.

Before that, Harold Lovell, the highly respected General Secretary of ACLM, appeared on a Church organised TV programme **Common Ground** telling the audience about the law course he was pursuing and urging others to do likewise.

Bird would have none of it. Since then the Church programme has not been telecast. The Church was told that it must seek prior approval for **anyone** who was to appear on the programme. To their eternal credit the Church rejected this censorship. The regime, besides controlling all the seats in Parliament, was tightening its total control over the electronic media. The totalitarian character of the state was extending its sinister tentacles.

Even worse, an advertisement for the Antigua Caribbean Training Institute (ACTI) which institute has been twice acclaimed by UNESCO as a model of non-formal education for development, and which institute too, has been the subject of a BBC programme, was not carried by both government radio and Bird Family owned radio. The latter returned the money for the pre-paid Ad. The former, Government radio, refused to carry the Ad advertising courses by ACTI and refused to return the money! Robbery, Highway robbery practiced by a government institution.

Meanwhile an **Outlet** camera seized by the Police when Tim Hector was arrested at the airport, and which Camera was carried by an Outlet correspondent has not been returned by the Police for nearly a year!

Copy material, magazines, photographs, documents illegally seized by the police on a raid at **Outlet** have not yet been returned. Apart from the repression, the State itself is using legal power, illegally, to practise robbery on those whom the State has marked down as its enemies.

Strangely and in contrast, Guyana, which reduces all General Elections to cruel farce, allows Opposition parties the right to broadcast on State Radio, and did so during the recent Selections in Guyana. Not so 'democratic' Antigua and Barbuda.

Nicaragua which held free and fair elections, observed and approved as fair by International observers, allows its Opposition broadcasts on radio and telecasts on TV. Reagan denounces Nicaragua, in spite of this democratic practice even though there is a U.S. sponsored and directed war against the heroic Sandinistas and the Nicaraguan people.

No ACLM advertisements are allowed in Antigua, far less broadcasts. NDP could get announcements even news stories. Not so ACLM. Do we need to say more? Only that if this State of affairs continues, even the semblance of democracy will disappear altogether from Antigua, and Bird will not only declare that Public radio and TV is "his", and "he" alone will determine who can be heard, who can advertise, but he will determine what is true, and what is not, what we are to know and what we are not to know, where we go and where we cannot go.

It is a truism that the same stick that hits the wild goat, the same stick will be used to beat the tame - mercilessly. In other words, the fate that has befallen ACLM, who alone has kept the flag of opposition and democracy flying high, suffering and enduring much in that process, will eventually be the fate of the entire society unless...... And that 'unless' is crucial. Otherwise they will tell some of us, and eventually all of us, "not on our airport", "not on our Deep-water Harbour", "not on our land" etc etc. Because, public property, all of it will have become "theirs", that is, in their totalitarian control.

/8309
CSO: 3298/452

BAHAMAS

OPPOSITION PARTY LEADER CHARGES GOVERNMENT RADIO-TV BIAS

Nassau THE TRIBUNE in English 2 May 86 p 1

[Article by Anthony Forbes]

[Text]

OFFICIAL Opposition Leader Kendal Isaacs last night protested ZNS's "unfair and prejudiced" policy of giving more coverage to a PLP backbencher than to the two Opposition leaders.

Mr Isaacs also criticised some members of the editorial staff of the Broadcasting Corporation, and charged that the commentaries of newsman Obie Wilchombe in reporting Mr Nattage's attacks against him are "as biased and defamatory as they are deliberate and malicious."

The Opposition Leader's protest came as he addressed hundreds of supporters at a Free National Movement rally at Yellow Elder Park last night.

"As for ZNS, once again they have shown a total lack of willingness to bow to the demands of decency and fairplay," he said.

"As propaganda experts, some members of the editorial staff of the Broadcasting Corporation have clearly displayed the extent to which our national radio and television services have been prostituted to the PLP's policitcal machinery," Mr Isaacs said.

He said that instead of providing an impartial national news service, "they are content to serve as the biased mouthpiece" of the PLP.

The Opposition Leader said that ZNS's Wednesday afternoon broadcast was a good example of the "unfair and prejudiced political policy" of the corporation.

"The sum total of time allotted to the report of an FNM rally, which was also held on Tuesday evening in Grants Town, amounted to one minute, 15 seconds," he said.

The Opposition Leader said that it included introductory remarks by news woman Sophie Saunders, a short excerpt from his speech, and a concluding reference to the fact that the Deputy Leader of the FNM also spoke.

"On the other hand, the PLP rally in Freeport was accorded over 3½ minutes, which included a commentary by Obie Wilchcombe for over one minute, lengthy taped excerpts from Kendal Nottage's speech, and a summary by Mr Wilchcombe of the key points made in the Prime Minister's speech as well," he said.

"How does ZNS justify giving a mere PLP backbencher more coverage and air-time than both the Leader and

Deputy Leader of the Official Opposition?" Mr Isaacs asked.

In addition, he said, it has now become commonplace for Mr Wilchcombe to engage in "sarcastic embellishment in reporting the attacks" made by Mr Nottage.

"His added commentary and jaundiced views, injected as introductory remarks to Mr Nottage's reported speeches, are themselves as biased and defamatory as they are deliberate and malicious," the Opposition Leader said.

"It is unfortunate that this young man has become so caught up in his desire to please his political masters that he no longer makes any pretence of adhering to the practice of impartial reporting," Mr Isaacs said.

"The Bahamian people deserve better," he said. "Clearly, the FNM must protest this blatant abuse of power by ZNS and one or two of its editorial staff."

Telling Bahamians not to despair, Mr Isaacs said he had taken the necessary legal steps to "curtail this campaign of malicious lies and distortion" and would continue to do so whenever and wherever necessary.

"When the voters of the Bahamas go to the polls to end unemployment, and wipe out the chronic corruption and gross neglect of the PLP, they will be taking the first necessary step to rid our body politic of dangerous and corrupt politicians who have lost the ability to see the difference between a lie and the truth, and who, even if they could tell the difference no longer seem to care," he said.

/9317
CSO: 3298/444

BRAZIL

EDITORIAL WARNS AGAINST TRADE CONFRONTATION

PY310022 Rio de Janeiro O GLOBO in Portuguese 29 May 86 p 1

[Editorial: "Neither Ultimatum Nor Defiance"]

[Text] The United States should not react to the Brazilian Informatics Law with threats, ultimatums, and reprisals. In turn, Brazil should not and must not try to uphold it by defying the U.S. position.

Friendly countries must discuss their differences, even the crises in their relations, without losing the perspective of dialogue and without losing face. In the case of Brazilian-U.S. relations. their close partnership demands an even more moderate, understanding, and patient approach to polemical matters. It is important to keep the door of understanding open, rather than to resort to formulas or rhetoric that may close that door.

Brazil has instituted an Informatics Law founded on the principle of the reserved market, which obviously meets quite well the interests of the national -- or allegedly national -- industry of mini- and micro-computers. No economy, however, is an island in today's world. Thus, the reaction of the U.S. interests in this sector can by no means be regarded as a heresy or an offense against the Brazilian sovereignty and honor. That reaction must be considered normal under the rules of the game, like any reaction by internal groups to any attempt to pressure them or to impose conditions from abroad.

Deputy Secretary of State John Whitehead, who came to Brazil to talk over this matter, did his best to make it clear that the U.S. Government is not threatening, setting deadlines, or delivering ultimatums for us to change our minds over the reserved computer market. The U.S. Government only intends, always through dialogue, "to open the way for a fair and equitable agreement on the computer sector that can respond to the interests of both countries."

The U.S. Government knows very well that on this matter we have "an untouchable law," since it was approved by Congress and signed by the president, and since it can only be changed by another law promulgated through the same democratic channels.

Any law, however, is subject to more or less rigid interpretation. It seems that the flexibility of interpretation is what the Washington authorities have in mind when talking about this Informatics Law. The Brazilian position goes beyond reasonable limits regarding the law's untouchability.

So much so that Itamaraty has just proclaimed that our Informatics Law is nonnegotiable. A diplomacy that refuses to negotiate, regardless of the objective of the negotiation, is at best denying the very purpose for which it exists.

Informatics is synonymous with dynamism, permanent creativity, and open horizons for advancement. In Brazil, we are running the risk of going against the natural advance of development in the economic, technological, social, and cultural fields in the world. We seem to have placed computer science in captivity. An untouchable Informatics Law is tantamount to a process of technological stagnation in the domestic computer industry, with progressively increasing costs of production and marketing in a closed model (although it does import components).

Nationalism regarding our oil industry probably set us back, but it did not prevent us from catching up because there is no mystery left in modern techniques of finding and exploiting oil deposits.. In the realm of computers, however, the reality is quite different. The Brazilian inward vision, the closing of our borders to the entry of the rapid developments taking place abroad, the nationalism of our immobilizing bias -- all these things are putting us so far behind that we will not be able to catch up.

If in addition to our industrial stunt with its sociocultural consequences, we are intent on political defiance, our errors will be multiplied, and perhaps disastrous. Confrontation should never exist as an alternative in the realm of U.S.-Brazilian relations. Today, when we need international support for the success of the Cruzado Plan and the administration of our foreign debt, an option of shock and deadlock is as untimely as it can be, and it certainly will have no support when the time comes for making realistic decisions, once the time of ideological, electoral, and partisan rhetoric has passed.

/9604
CSO: 5500/2051

BRAZIL

COMMERCE MINISTER NOT WORRIED BY 'U.S. THREAT'

PY201831 Sao Paulo Radio Bandeirantes in Portuguese 1600 GMT 20 May 86

[Excerpt] The United States has reasserted its threat to Brazil: Either open the computer market to the United States or face cutbacks in Brazilian imports.

Minister Hugo Castelo Branco, [Minister of Industry and Commerce] is not concerned about the U.S. threat and even seeks to broaden market restrictions to include for chemicals and technical-biological goods. Political circles have termed the U.S. policy a true case of blackmail.

/9274
CSO: 5500/2048

CLANDESTINE STATION BEGINS BROADCASTING

PA221515 Bogota EL TIEMPO in Spanish 19 May 86 p 2A

[By Pablo Guarin]

[Text] Puerto Boyaca, 18 May -- Great commotion prevails in the middle Magdalena region following the appearance of an alleged clandestine station that has identified itself as the Voice of Freedom. The station has broadcast announcements which indicate that unidentified groups will become the peasants' spokesmen to denounce the actions of communist subversives, particularly the armed group of the pro-Soviet community party, the self-styled FARC.

These groups reject and condemn the vile murder (according to the station's version) of the 14th Brigade's members close to Puerto Berrio and blame the FARC for this action. The station announced that its headquarters is located in a Caribbean island and may be heard on short wave. The anchorman has a Central American accent.

The radio station was clearly heard this morning in Puerto Boyaca, Cimitarra, and Puerto Berrio; there is no information about who might be in charge of the organization.

/9274
CSO: 5500/2049

REBELS OCCUPY CARACOL TRANSMITTER, AIR MESSAGE

PA221412 Hamburg DPA in Spanish 1455 GMT 21 May 86

[Text] Bogota, 21 May (DPA) -- Early today a guerrilla group occupied the transmitters of Cadena Radial CARACOL in Medellin, the country's second largest city, and aired a 30-minute message against the presidential elections to be held in this country on Sunday.

In addition, fleeing from the siege laid by the police almost immediately in Medellin's western sector, the rebels left three bombs in one of the transmitter towers, but the explosives did not go off.

The attack on the transmitters occurred at 0630, and only the operator and some of his relatives were there. There were no casualites in this operation.

According to CARACOL, the guerrillas identified themselves as members of the National Guerrilla Coordinating Board (CNG), a recently formed organization which includes the 19 April Movement (M-19), and the "Ricardo Franco" and "Quintin Lame" (pro-Indian) fronts.

So far, however, the CGN had limited its operations to Valle and Cauca Departments, in the country's southwest, where its main vanguard is the so-called "America Battalion," which, it was discovered, included Peruvian and Ecuadoran guerrillas.

The message aired by the rebels was recorded. The guerrillas withdrew from the transmitters without any problems. Several men and a woman participated in the occupation.

The explosives left attached to the transmitter were deactivated by police experts.

/9274
CSO: 5500/2049

BRIEFS

VENEZUELA INTERESTED IN BRASILSAT CHANNELS--Venezuela wants to either buy or lease channels of the Brazilian satellite, Brasilsat, for a telecommunications network that will cover the entire Venezuelan territory. Negotiations began here in Brasilia with a visit by Venezuelan Transport and Communications Minister Juan Pefro del Moral to his Brazilian counterpart Antonio Carlos Magalhaes. During the meeting the two ministers also discussed the possibilities of Venezuela and Brazil renewing previous agreements. [recorded passage indistinct] Today the Venezuelan minister will travel to Guaratiba, Rio de Janeiro state, where he will visit the Embratel [Brazilian Telecommunications Company] premises and the Brasilsat programs. [Text] [Brasilia Radio Nacional da Amazonia Network in Portuguese 1000 GMT 20 May 86 PY] /6091

CSO: 5500/2053

BRIEFS

ARABSAT USE URGED--Algiers (REUTER)--Arab states are being urged to make maximum use of the Arabsat telecommunications to pay off the $134 million it cost to put into orbit, the official Algerian news agency APS reported. A meeting of the Arab Satellite Telecommunications Organisation which opened here on Tuesday was told that some Arab states had ordered over 3,500 circuits on other satellites for 1987. Technicians said only 1,300 of the 9,000 circuits available on Arabsat were being used despite the fact that it was powerful enough to cover the whole Arab World. They also pointed out that Arabsat needed smaller ground stations than other satellites. The meeting is due to designate a new director-general of the organisation to replace Ali Mashat who has been relieved of his duties following "bad coordination" with Arabsat's board of directors, APS said. [Text] [Amman JORDAN TIMES In English 30 Apr 86 p 1 JN] /12232

CSO: 5500/4504

ARABSAT MEETING ELECTS NEW DIRECTOR, DISCUSSES FINANCING

Provisional Budget Voted

LD300847 Algiers Domestic Service in French 1830 GMT 29 Apr 86

[Summary] The 9th General Assembly of Arabsat ended just over half an hour ago at (Aurassi) Hotel. The closing ceremony was broadcast live by Arabsat throughout the Arab world at approximately 1900 hours.

The 9th General Assembly is an important one and various decisions have been made: the vacancy of director general was filled by Abdelkader (Baihri) of Algeria, a telecommunications engineer and expert in the space telecommunications field with 20 years of experience behind him. The Assembly voted a provisional budget of $53 million but plans to obtain only $12 million in income. There will therefore be a deficit of $45 million due to the settling of the organization's debts, debts incurred at the time of the commissioning of the satellite. It is planned to reabsorb this deficit gradually, but particularly through the increasing of exchanges through telephone circuits, telex, and television channels. It is to some extent a question of taking over the inter-Arab exchanges currently taking place through the international system Intelsat. A first test in that direction will be carried out with the coverage of the World Football Cup in Mexico. Arabsat (?using Algiers) as a relay will broadcast toward all the Arab countries.

Increased Use of Arabsat Urged

JN300807 Amman JORDAN TIMES in English 30 Apr 86 p 1

[Text] Algiers (REUTER)--Arab states are being urged to make maximum use of the Arabsat telecommunications to pay off the $134 million it cost to put into orbit, the official Algerian news agency APS reported. A meeting of the Arab Satellite Telecommunications Organization which opened here on Tuesday was told that some Arab states had ordered over 3,500 circuits on other satellites for 1987. Technicians said only 1,300 of the 9,000 circuits available on Arabsat were being used despite the fact that it was powerful enough to cover the whole Arab world. They also pointed out that Arabsat needed smaller ground stations than other satellites. The meeting is due to designate a new director-general of the organization to replace Ali Mashat who has been relieved of his duties following "bad coordination," with Arabsat's board of directors, APS said.

/12712
CSO: 5500/4618

ALGERIA

BRIEFS

TELEVISION TRANSMISSION--A new accomplishment has been achieved in the Ouargla Governorate to boost the network of television transmission. To enable Algerian citizens to watch the national television programs, and with the aim of providing media coverage within the framework of the national charter, a station for boosting television transmission [words indistinct] began operations yesterday evening, Tuesday. The power of this station is 1,000 watts, and the national television programs are being received on channel No 7. Therefore, citizens residing in the Hassi Messaoud area are requested to turn their receiving sets from the previous station, which transmitted on channel No 9, to the new station; that is, channel No 7. We would like to point out that a team of engineers from National Radio and Television (RTA) have made enormous and praiseworthy efforts over the past 2 weeks to make this station operational on the specified date. Finally, we would like to point out that similar stations are currently being built in many parts of the south of the homeland in addition to the massive station for boosting radio transmission which is due to be completed before the end of this year. [Text] [Algiers Domestic Service in Arabic 1200 GMT 21 May 86 LD] /12712

CSO: 5500/4618

FRG FIRM TO COOPERATE IN TELEX EXCHANGE MANUFACTURE

Madras THE HINDU in English 7 May 86 p 23

[Text]

The Electronics Corporation of India Limited has entered into an agreement with Siemens of Federal Germany for technology transfer for the manufacture of stored programme controlled (SPC) telex exchanges. Besides ECIL, Indian Telephone Industries, Bangalore, will also receive the technology and will manufacture the hardware.

ECIL will be the lead agency having the total responsibility and will provide the computer and the related software and integrate the systems into the network.

Mr. B. S. Prabhakar, Managing Director of ECIL, and Mr. Hans Wefelschield, head of the exports department of Siemens, signed the agreement in Hyderabad recently.

The agreement with Siemens will supplement ECIL's own pioneering efforts in the area of digital communication. With these fully electronic telex exchanges, ECIL emerges as a major digital communication systems supplier to the Department of Telecommunications and other users in the country. The fully electronic SPC telex exchanges, currently in use in a few major Indian cities, will take the place of the traditional electro-mechanical telex switching equipment as part of the modernisation drive of the Department.

The range of the telex equipment to be manufactured will cover primary exchanges, concentrator exchanges, concentrators and time division multiplexers. The primary exchange will function as a large capacity switch (in excess of 2,000 lines) with itemised billings capability, while the concentrator exchanges will handle between 400 and 1,000 lines with local switching and bulk billing facilities. The concentrators are useful for economically covering geographically distributed clusters of telex subscribers.

In addition to performing basic switching functions, the SPC telex equipment offers store and forward facility and teletex service. Also, high speed data transmission upto 9,600 baud is possible with this equipment. Apart from overall improvement in the quality of telex service achieved through minimisation of dialling errors and corruption of messages, SPC telex equipment will increase the throughput of the telex network through better utilisation of the line capacities.

This activity involves a capital outlay of Rs. 10 crores. Training of ECIL and ITI personnel has commenced at the Siemens facilities in Germany. Manufacturing operations will commence in the current financial year itself and ECIL expects to deliver telex equipment to meet the DOT requirements of about 50,000 lines during the Seventh Plan. Besides, ECIL will also explore export possibilities in some of the neighbouring countries.

/9274
CSO: 5550/0120

INDIA

BRIEFS

MINICOMPUTER, TELEX PLANS--New Delhi, 6 May--India will soon start manufacturing high performance 32-bit super mini-computers and Stored Programme Controlled telex exchanges with foreign collaboration, reports UNI. According to a release of the public sector Electronic Corporation of India Limited, the ECIL and the Norsk Data A.S. of Norway entered into an agreement for the technology transfer for the ingenous manufacture of super mini computers envisaging an outlay of Rs 10 crores. In another agreement with Siemens of West Germany, ECIL proposed to manufacture SPC telex exchanges to enable the telecommunication department to modernize its systems. Besides the ECIL, the Indian Telephone Industries, Bangalore will also receive the technology and will manufacture the hardware. [Text] [Calcutta THE STATESMAN in English 7 May 86 p 15] /9274

NON-HINDI TV LINK--New Delhi, 3 May--All the low-power TV transmitters in the non-Hindi speaking States will be linked during the Seventh Plan, Mr V. N. Gadgil, Minister of State for Information and Broadcasting, told the Rajya Sabha yesterday. This was being done to encourage production of programmes in the local languages, he said while replying to a discussion on the working of his Ministry. Mr Gadgil said that it was expected that the work on the linking of low-power transmitters in Maharashtra and Andhra Pradesh would be taken up soon. Mr Gadgil said that the linkage would be done through microwave or transponders with the next INSAT-IC which was likely to be launched later this year. The new link-up would release 11 channels which could be utilized to enable people in non-Hindi States to watch part of the programmes in regional languages. The facility could be made available only to non-Hindi States in the current plan. That was the best which could be done in the situation since a national second channel would require a massive investment of Rs 1,200 crores while the plan outlay stood only at Rs 700 crores. The Minister said that financial constraints would permit the work to be done only in the non-Hindi States in the Seventh Plan. [Text] [Calcutta THE SUNDAY STATESMAN in English 4 May 86 p 7] /9274

CSO: 5550/0121

JOINT GUINEA TELECOMMUNICATIONS COOPERATION TO INCREASE

AB211538 Conakry Domestic Service in French 0645 GMT 21 May 86

[Text] Rabat and Conakry want to strengthen their relations of cooperation. The two countries, [words indistinct] strengthen their cooperation through the Morocco-Guinea [words indistinct]. Thus outside the discussions which took place between General Lansana Conte and King Hassan II, member of the Guinean presidential delegation held discussions with some Moroccan authorities. This took place last week during the recent visit of head of state General Lansana Conte to the Kingdom of Morocco.

The Moroccan minister of interior and information received the Guinean minister of information and culture on 13 May 1986. On the occasion, Zainoul Abidine Sanoussy [bureau records list Sanoussy as secretary of state for youth and sports] explained to his Moroccan counterpart the need for an exchange of programs in the training of personnel, the installation of a direct line between the [name indistinct] and the GUINEAN PRESS AGENCY, the exchange of radio and television programs as well as newspapers.

Replying, the Moroccan minister of interior and information expressed his readiness, in conformity with the directives of his majesty, to give every possible assistance to the development of information in Guinea. The Moroccan minister then promised to send a team of experts immediately to Conakry to evaluate these needs and to find ways and means of satisfying them.

/9604
CSO: 5500/4619

GHANA

RADIO TRANSMITTER, STUDIO EQUIPMENT COMMISSIONED

AB211910 Accra Domestic Service in English 1800 GMT 21 May 86

[Text] A 1.6 million-cedi VHF FM transmitter and studio equipment donated by the FRG to the GBC [Ghana Broadcasting Corporation] were commissioned by the secretary for information, Mr Totobi Qkakyi, in Accra today. The 500-watt transmitter and equipment were officially handed over to the GBC by the FRG ambassador, Mr Wolf-Dietrich Vogel, at a ceremony at the broadcasting house. The (?mono) transmitter will serve the Accra metropolitan area within a radius of 50 kilometers.

In an address, the secretary for information, Mr Totobi Quakyi, said the installation of the equipment is another step toward the development of a community radio network in the country. Its programs will be designed to suit specific local conditions and equipment. He mentioned that in a few weeks' time another station will be commissioned in Bolgatanga, and within a few weeks the government will take delivery of more equipment from UNESCO for the Apam relay station to be followed shortly with other equipment for the Dormaa Ahenkro, Kete Krachi, and Keta stations. According to the secretary, the rediffusion network will be replaced by community radio facilities and it will necessitate the production of more radio sets which will meet the demand of every pocket. He thanked the German Government for the gift.

The director general of the GBC, Mr Fifi Hesse, commended the technical staff for the work done and said the station would be used to broadcast programs for both Radio I and Radio II.

/12232
CSO: 5500/74

MINISTER OUTLINES TELECOMMUNICATION PLANS

AB181123 Abidjan Domestic Service in French 0700 GMT 18 May 86

[Excerpt] The National Telecommunications Office, ONT, is determined to achieve its target--that of making the services of telecommunications accessible to all Ivorians by the year 2005. A large network already exists--radio relay-stations, submarine cables, and a telecommunications satellite. But because he who does not move forward moves backward, we must always extend, improve, the modernize our telecommunications system. This determination was once again asserted yesterday by Post and Telecommunications Minister Barry-Battesti on the occasion of the celebration of the World Telecommunications Day.

The head of state, the minister said, has decided to give high priority to telecommunications development, and to give the ONT the necessary financial means to carry out the various projects enlisted under the long-term master plan for telecommunications development.

[Bagin Barry-Battesti recording] The ONT will in the first place make a total investment of 30 billion CFA francs over a period of 3 years. This is a prelude to other investments of at least equivalent amounts over the following years. Major international banks like the World Bank, the European Investment Bank, the Central Fund for Economic Cooperation, and the African Development Bank will participate in this program on which I can already give the following details:

As early as this year, a new electronic transit exchange will handle international communications and major operations will be undertaken to improve the flow of traffic in Abidjan. In 1987, a 10,000 equipment [as heard] ultra-modern telephone exchange will be installed at the Postal [P&T building] tower to enable the numerous pending applications by prospective subscribers to be satisfied. In the years that will follow, the equipment in Abidjan will further be improved, and new electronic exchanges or extensions to existing exchanges will be installed. Thus, for the whole country, we will move from 56,000 telephone subscribers in 1985 to 90,000 subscribers in 1990.

At the same time, the network of the radio relay-stations will be further improved in order to eliminate interruptions in service caused among other things by atmospheric disturbances to which these equipment are sensitive. And intended for enterprises will be a system of date transmission by package [reseau de transmission de donnes par paquet] using advanced technology will be installed between the big cities. But priority will be given to areas which are the least equipped as far as telecommunications are concerned. [end recording]

/9738
CSO: 5500/75

IVORY COAST

BRIEFS

CCE TELECOMMUNICATIONS LOANS--The CCE, Central Fund for Economic Cooperation has granted our country two loans worth 20 billion francs for telecommunications and the processing of cotton production. The first loan, worth 6.6 billion francs is destined to the partial financing of the investment plan of the National Telecommunications Office, ONT. The program will enable the ONT to modernize and, to a certain extent expend its installations and acquire more equipment. The planned investments total 20 billion francs over a 3-year period. The program also plans for a major restructuring of the office, for the amount of 13 billion francs, a large part of which will be paid by the state. The second loan, worth 3.24 billion francs will serve for the partial financing of the expansion of processing units at the Ivorian Company for Textile Development, CIDT. [Excerpts] [Abidjan FRATERNITE MATIN in French 15 May 86 p 5 AB] /9738

CSO: 5500/75

TANZANIA

BRIEFS

ITALY FUNDS EARTH STATION--Italy has agreed to fund the construction of an earth station for communications by satellite in order to improve Tanzania's telecommunications system. Several agricultural projects have also been given the green light from Rome following a visit to Dar es Salaam by the Italian deputy minister for foreign affairs, Mario Raffaeli. [Text] [Paris THE INDIAN OCEAN NEWSLETTER in English 17 May 86 p 8] /9274

CSO: 5500/76

TUMANOV SPEAKS TO PRESS ROUNDTABLE IN MOSCOW

Alleges RL Ties to CIA

LD191653 Moscow TASS International Service in Russian 1428 GMT 19 May 86

[Report by special correspondent Viktor Ponomarev]

[Text] Moscow, 19 May (TASS) -- Radio Liberty was created under CIA guidance. It still remains the favorite child of U.S. intelligence, said Oleg Tumanov, former editor in the Russian Service of Radio Liberty/Radio Free Europe, at a roundtable with a group of Soviet journalists held today in Moscow.

After the press conference held recently by Tumanov at the USSR Foreign Ministry Press Center, a man named Redlich, who is working at Radio Liberty, tried to refute the statements by Tumanov about a close link between Radiot Liberty and the CIA. Echoing him, the emigre newspaper RUSSKAYA MYSL has exclaimed naively: How can one engage in espionage while sitting at a mircrophone?

Replying to them, Tumanov said that Redlich would have been fired from Radio Liberty immediately if he had tried to say anything. Redlich has been working for a long time at the radio station, but few people know that he himself was heading the U.S. espionage school in Bad-Hofburg. His current duties for the CIA consist of maintaining links with the radio station Deutche Welle and "their people" in the FRG media.

As for the naive surprise expressed by RUSSKAY MYSL, Tumanov said, it pretends not to know that the people behind Radio Liberty's microphones are only a tiny part of the whole staff.

The bulk of the iceberg, in particular the "research departments," Radio Liberty's archives which are made use of by the special services and the network of all manner of gatherers of information about the life of Soviet people -- all of this is hidden from the eyes of outsiders.

Until 1970, the United States did everything it could to conceal its links with Radio Liberty and Radio Free Europe. Then U.S. congressmen themselves spoke about this link. A big scandal then occurred, but both radio stations survived. The CIA turned out to be stronger than Congress. Touching on the remarks made by U.S. Secretary of State Shultz at the International Press Club on 14 May, Tumanov noted that Shultz' call not to reduce broadcasting by Radio Liberty and Radio Free Europe was dictated by the fact that both these centers of subversion are the most frenzied mouthpieces for the U.S. Administration, and it was most unlikely that Congress would find the strength or the possibilities for in any way placating these "dogs of the cold war."

Tumanov stressed that neither at the press conference nor after it did a single foreign correspondent cast any doubt on his statement about the ties between Radio Liberty and the CIA. One must suppose that this pact was obvious to them and gave rise to no doubts. But they had tried to discredit him as a person. For them Tumanov repeated that he made his decision to return to the homeland a long time ago, and had been gathering information on the activities of Radio Liberty for many years. Hence the details he is talking about are strictly documented, and all of this documentation is in the hands of the relevant Soviet bodies.

Let us say at the outset, Tumanov said, that no one can be hired at Radio Liberty who has not been screened by U.S. special services. In Munich, the "security section" is headed by Richard Cummings, a seasoned CIA officer. Robert Redlich, in charge of Radio Liberty's liaison with the press, is from the same "team." Directly in charge of Radio Liberty is Nikolay Vaslev, a seasoned U.S. military intelligence officer. Radio Liberty's "Russian Service" is directed by Vladimir Golscoy, a seasoned U.S. military intelligence officer. In the corridors of the station he can be seen in the uniform of a U.S. major. A former expert in psychological warfare methods, he still attends special training courses at the U.S. McGraw base near Munich. Assistant director of the "Russian Service" is Nikolay Petrov, a seasoned CIA officer. The list could be continued, Tumanov said.

At Radio Liberty there are whole sections collating information about the USSR: the "Research Section," "Red Archive" and "Samizdat Archive." In Paris, under the direction of Jean Parta and Charles Allen -- both CIA officers -- a "Department of Audience Research" functions, with "subsections" in many West European cities. A special "Censorship Section" exists under the direction of CIA officer Sam Lyon.

Radio Liberty maintains no less close liaison with branches of U.S. military intelligence, located in Munich and its surrounding areas, Tumanov stated. These are the intelligence schools for training cadres specializing in espionage against the USSR. There are two such schools in Bavaria. One is concealed in the U.S. McGraw Army barracks, and the other is in Garmisch-Partenkirchen. Students at both intelligence schools have free access to the territory of Radio Liberty, to its closed materials and dossiers, and the radio station's staff members give lectures to them and coach the students in how they should behave in the USSR and countries of Eastern Europe, how to establish contact with Soviet citizens for espionage and other subversive purposes. These students' careers later take them to Langley, the Pentagon, refugee camps, radio intelligence stations and not last, the embassy and other missions of the United States in the USSR.

At the roundtable meeting other questions, too, were discussed regarding the hostile activity of Radio Liberty/Radio Free Europe against the USSR and their internal interference in the internal affairs of the FRG and Austria.

Further Report

LD201746 Moscow TASS in English 1722 GMT 20 May 86

["CIA Spies in U.S. Embassy"--TASS headline]

[Text] Moscow May 20 TASS -- TASS correspondent Viktor Ponomarev reports: Oleg Tumanov, a former "Russian Service" editor at the radio station "Liberty," told a group of Soviet journalists at a "round table" meeting about close ties of the U.S. Embassy in Moscow with the Munich "Liberty" and "Free Europe" radio centre, a CIA branch in Europe.

On the CIA instructions the Embassv officially subscribes and regularly mails to Radio "Liberty," a lot of Soviet periodicals, including local ones, which are intended for their processing for subversive ends and concocting "plausible" canards. Diplomats are active in reporting various negative information about the Soviet Union, including rumours and anecdotes with which the radio stations lard their anti-Soviet fabrications.

The official post of "human rights attache" is set up at the U.S. Embassy in Moscow, in agreement with the U.S. intelligence services, to coordinate this work. A diplomat holding this job is called at the "Liberty" station "our man in the embassy."

This post, Tumanov siad, was held, in turn, by James Glenn, John Purnell, George Glass. Warren and Zimmerman are American diplomats who were "in charge" of the so-called dissidents in the USSR in 1984-1985. All their "sources of information" were to some or other extent on the pay-roll of the U.S. Embassy which has "encouragement" funds for these pruposes. At present Roger Hart, U.S. Embassy second secretary, is working hard in Moscow, preparing misinformation and slanders.

Tumanov repeatedly saw glass at the "free europe" station where the latter was drilled in concocting inciting broadcasts before his assignment to Moscow.

Apart from carrying on "secret work" among dissidents, the embassy also "calls the tune" for the "Liberty" station, said Tumanov. In fact, it dictates the main directions and themes for slanderous broadcasts and supplies appropriate "information" for them. This is done with the blessing of the CIA and the U.S. State Department, though the kindling of hatred is not evidently in line with the generally recognized functions of a diplomatic mission.

/9274
CSO: 5500/1013

FORMER RADIO LIBERTY EMPLOYEE HOLDS PRESS CONFERENCE

Comments on 20-Year 'Nightmare'

LD281628 Moscow TASS in English 1121 GMT 28 Apr 86

[Text] Moscow April 28 TASS -- Oleg Tumanov, former acting editor-in-chief of the Russian service of Radio "Liberty" [RL], spoke at a press conference at the Press Center of the Ministry of Foreign Affairs of the U.S.S.R. today. He told newsmen how after defecting to the West more than 20 years ago he had found himself in an anti-Soviet trap set up by the military intelligence service and the Central Intelligence Agency of the United States. U.S. intelligence officials arranged his employment with Radio "Liberty" where he started at the very bottom and worked his way up to an editor of the news desk of the Radio "Liberty"'s Russian service, chief of the news desk, and chief of the current affairs desk. Finally, in recent time he was performing the duties of editor-in-chief of the Radio "Liberty"'s Russian service.

Oleg Tumanov emphasised in his statement that "the RL/RFE [Radio Free Europe] are a branch of U.S. secret services, a convenient front for covert operations against the USSR and other socialist countries. The visible tip of the iceberg are the so-called propaganda activities aiming to implant such ideas in the minds of Soviet people as would serve the secret services' ends".

"The invisible activities, which are pursued by the radio station and its individual services and which remain unknown to the audiences at large, are purely in the nature of intelligence. This, incidentally, is not a secret to the West German Government. In its time the Social Democratic Government told the Americans to remove the radio stations from West German territory but afterwards no more such demands have been made. There are obviously several explanations for this and one is cooperation between the U.S. and West German intelligence services".

"Over my twenty years of work at the radio station I have seen many documents, attended the conferences of its senior officials and personally talked to representatives of U.S. secret services and can say confidently that the radio service's executive staff has invariably included U.S. intelligence officers. Let us look at how things stand today. RL director Nikolay Prokofiyevich Vaslev is a staff member of U.S. military intelligence and his assistant Nikolay Petroff is a C.I.A. staffer. These are just some of the names in the Russian service. The list can be continued."

"But I will name a whole department which works directly under the C.I.A.'s control. The address is 193 Saint-Germain Boulevard, Paris. Located there is the so-called audience research department. It is headed by C.I.A. officer Gene Parta. Similar offices in Vienna, Rome, Copenhagen, Duesseldorf, Hamburg, Salzburg and elsewhere also report to him. The department and its affiliates gather and process information on issues of interest to the C.I.A. and the defense intelligence agency and approach Soviet citizens on visits abroad with the aim of cultivating possibly and recruiting them".

"All these are in fact the C.I.A.'s foreign outposts", Oleg Tumanov said. "I do not know whether, say, the government of neutral Austria is aware of this".

"It is for more than twenty years that I lived in the West", he said. "For most of that time I worked on Radio Liberty. I lived through both the periods of tension and the periods of detente."

"But the RL's role and tasks have never changed under any circumstances. In any international weather, Radio Liberty has remained a mouthpiece of the warlike group of politicians to whom peaceful cooperation with the USSR and peaceful co-existence are more frightening than the aspen stake."

"The radio service has always been hostile to the Soviet system and especially now. It unswervingly follows the policy line which the U.S. Government has adopted of late towards the USSR. It is a policy of sharply aggravating relations between the two countries, a policy of ignoring any peace initiative coming from the Soviet leadership, a policy of heightening international tension."

"My road back home has been tortuous", Oleg Tumanov said in conclusion. "I wouldn't wish anybody to experience this kind of 20-year-long road. I am now at home and it would seem the easiest thing to say that everything I have lived through has been a nightmare dream. No, a dream it hasn't been. Everything I told you here has been a reality, a nightmarish reality. Only perhaps it is not everybody that can see this reality objectively. I could and so the road back to my homeland was for me the natural and logical one. At a difficult time, and the world is going through a difficult time now, every honest person should be with his own people. This is why I am here."

Scores 'Intelligence' Activities

LD290156 Moscow Television Service in Russian 1700 GMT 28 Apr 86

[USSR Foreign Ministry news conference at the Press Center on 28 April with statement by Oleg Tumanov followed by questions and answers; recorded -- from the "Vremya" newscast]

[Excerpts] [Caption reads "At the USSR Foreign Ministry Press Center." Camera shows journalists in hall, Tumanov making his statement, four men seated on the platform. They are indentified by nameplates as follows: left to right on screen; O.A. Tumanov, Yu.A. Gremitskikh, N.A. Ushakov; the nameplate for the fourth man is not legible]

[Tumanov] Esteemed comrades, ladies and gentlemen. It seems that I should begin by explaining why I am here at the USSR Foreign Ministry Press Center today, and not in my office at 67 [?Fockingestresse] in Munich, where the headquarters of RL and RFE are located. In November, at the end of November 1965, seaman Oleg Tumanov, born in Moscow in 1944, disappeared from a Soviet warship while it was sailing in the Mediterranean. For some time, this was probably considered an accident, but in fact it was a case of defection. At that time, the U.S. and British intelligence services were pretty quick in working on me, and as early as December 1965, a U.S. Air Force aircraft delivered me to Frankfurt-on-Main in West Germany.

I can foresee questions that will probably arise here: What was it that prompted me to run away from a Soviet warship, and why did I betray my homeland? It is difficult for me to answer this question, and I have been asked it dozens of times. If I tell you that I was about 20 years old at the time, that I wanted to take my destiny into my own hands, that there was perhaps a bit of selfishness in the act and a failure to realize the future consequences of such an action -- all of this played a part. It is not as though I was having a difficult time on the ship. My period of service was coming to an end. My mother, father, and brother were waiting for me in Moscow. So I repeat, yet again that it is most extremely difficult for me to answer the question on my reasons for running away. Well, as I said, I was hoping to take my destiny into my own hands.

Unfortunately, nothing went the way I expected and I fell into the hands of U.S intelligence. Then, following several conversations and meetings, I was invited to RL in Munich.

This was in 1966. At that time, the staff office at RL consisted mainly of former White Guards and Vlasovites, people who switched sides during the war. It was clear that with a crew like that -- and the CIA knew that perfectly well -- one could not go very far. And so in 1966, the search was stepped up for, so to speak, new blood. I had no special training, no experience whatsoever in radio work, yet all the same I was, as it were, offered a job.

Now I would like to say a few words about what RL is. At one time Senator Fulbright said -- and he was thinking of RFE too -- that these two radio stations are a relic of the Cold War, from the times of the Cold War. It is possible the senator was hoping the international climate would warm up and, in that case, these relics would probably disappear of their own accord. But as you see, both radio stations still exist magnificantly and are magnificently alive.

Both radio stations are effecively subsidiaries of the U.S. special services, a convenient front for conducting various manners of covert operations against the Soviet Union and other socialist countries. The visible tip of the iceberg, that is, the purely propaganda activities, is a very, very small part, because the main activity is, so to speak, directed towards extolling in the consciousness of Soviet citizens the ideas that suit the special services, that is the first point. Then there is the pure intelligence activities, that is, activities of an intelligence nature.

[Announcer] Then those participating in the news conference answered questions from journalists. Here Professor Ushakov, department head in the Institute of State and Law at the USSR Academy of Science, answers the question: Is the activity of RL in accordance with the norms of international law?

[Ushakov] It is a fact that RL attempts to disinform the Soviet population about the internal events in our country, about Soviet state foreign policy, and international affairs. It is an unbroken stream of lies and slander about the Soviet social and state system, about Soviet legality, Soviet socialist democracy [word indistinct] national differences between the peoples of the Soviet Union.

Of course, such hostile, slanderous, and subversive propaganda is utterly incompatible with international law. It is completely against the law. This arises first of all from the basic principles of international law, stated and fixed in the UN Charter, according to which, as the declaration of 1970 says -- and I quote -- No state, or group of states, has the right to interfere, directly or indirectly, for any reason at all, in the internal or external affairs of any other state. Here it is necessary to bear in mind that the activity of RL is carried out under the direct control [word indistinct] and observation of the U.S. Congress and the U.S. Administration, and is financed by the state budget. Therefore, the U.S. has direct international responsibility for the activity of this radio station.

[Question] Second Class Captain Nikitin, Observer for KRASNAYA ZVEZDA. You spoke about the links between the radio station and CIA. Are there such links with the Pentagon and what is their nature?

[Tumanov] The fact is that different services, special services, of the United States, both the CIA and military intelligence, make wide use of the research materials, let's say, at the centers of the two radio stations. They are also involved in research in the military field. People who leave the Soviet Union normally undergo debriefing by military intelligence and by the CIA. They collect material... [corrects himself] this material is collected, and returns in part to the radio station in a summarized form, and in full form -- I say that it often also contains military information, so to say -- that goes both to the Pentagon and to Langley.

It is well known that in cases, let us say of some military action, both radio stations pass under the jurisdiction of the Pentagon, since they both have a staff of translators, and all sorts of other data, which is essential for psychological and propaganda warfare.

[Announcer] The participants in the news conference answered other questions from journalists.

Further Report

LD281844 Moscow TASS in English 1820 GMT 28 Apr 86

[Text] Moscow April 28 TASS -- Oleg Tumanov, former acting editor-in-chief of the Russian-language service of Radio Liberty told a press conference for Soviet and foreign journalists today that he had returned home of his own free will, that he "had not been an agent of the State Security Committee" of the USSR and "had not been kidnapped by agents of the State Security Committee."

Tumanov described Radio Liberty's links with the U.S. intelligence community which was shaping the radio programmes beamed at the Soviet Union.

He disclosed that, according to instructions Radio Liberty was receiving from Washington, any action by the Soviet Union, directed at lessening international tension, was to be described in broadcasting by Radio Liberty and Free Europe as propaganda that had nothing to do with the USSR's real policy.

That remained the main trend today, he pointed out.

On Radio Liberty's ties with international, regional and national Zionist and other reactionary organizations, Tumanov said that they were exerting considerable pressure on the shaping of programmes intended for the Soviet Union.

The Radio Liberty Russian service was maintaining through its correspondents and staff in Munich close contacts with various anti-Soviet organizations in the West, such as the Popular Labour Union which actively cooperated with the Nazis during the Second World War.

On allocations for Radio Liberty, Tumanov said that, judging by the U.S. Congress' and President's attitude to it, "There are no particular difficulties in allocating funds for the radio station."

Tumanov said that various services and military intelligence of the United States extensively used materials provided by the special research centres of Radio Liberty and Free Europe.

These centres were also engaged in research in the military sphere. Their offices were operating, for instance, in Paris and Salzburg. Information, obtained from these centres, was processed and checked by military intelligence and the CIA and then returned, in part, to the radio stations for transmission, and, in a bigger volume, to the Pentagon.

It was stressed at the press conference that several Western countries, above all the United States were conducting subversive activity against the Soviet Union and other socialist countries, using radio propaganda for this purpose as well.

The American-run Radio Liberty and Free Europe stations, operating from West German territory, were the most odious of the Western radio stations that were grossly interfering in the USSR's internal affairs.

The activity and programmes of these stations were poisoning the international atmosphere, and were directed against mutual understanding and cooperation between peoples.

/9274
CSO: 5500/1013

TASS: U.S. COMMISSION URGES INCREASE IN USIA, VOA ACTIVITY

LD190147 Moscow TASS International Service in Russian 2152 GMT 16 Apr 86

[Text] Washington, 17 Apr (TASS)--TASS correspondent Aleksandr Lyutyy reports: The so-called U.S. Advisory Commission on Public Diplomacy has called in its latest annual report for a stepping up by the United States of its psychological warfare against the socialist world. Set up by the U.S. President in 1978, it supervises the activity of Washington's main foreign political propaganda department, the U.S. Information Agency (USIA).

In its report, the commission notes that under the Reagan administration, USIA entered on "a course of innovations, fresh energy, and expanding programs." USIA's budget for the coming 1987 fiscal year is planned for almost $1 billion. At the same time, the report states, "the expansion of the financial possibilities and the technical modernization of all sectors of the USA should continue."

One of USIA's main achievements in 1985, the commission says, was the "renaissance" of the VOA radio station, which comes within the structure of this department. In the past year, the weekly volume of broadcasting by the radio station in 42 world languages, transmitting disinformation about the policy of the USSR and the other socialist countries has increased from 987 to 1327 hours. Some $1.3 billion has been allocated for a long-term program of technical modernization for the VOA, which will allow the volume of broadcasting to be expanded.

On 15 October last year, the VOA for the first time in the past 25 years began broadcasting regularly to Western European countries. The commission states that the task is to get broadcasts through to the "young people of Western Europe who might have an inaccurate impression of the United States policy." In other words, it is a question of "brainwashing" that category of the population of Western Europe, which is coming out increasingly actively against the militarist course of the Reagan administration.

The commission's report contains recommendations to make maximum use of the USIA's Worldnet Global Television Network which was put into operation in 1983 and which is used by the administration for the propaganda of its foreign political concepts with the aid of television. At the present time, Worldnet programs are broadcast to 75 states of Europe, Latin America, Asia, and Africa. The commission also calls for more active steps to implement the possibilities of the "national endowment for democracy" for which it is planned to allocate about $20 million in the 1987 fiscal year. Although Washington asserts that the fund's activity is aimed at "the building of democratic institutions in the world," in reality even the U.S. press has been forced to admit that this body is used as a cover for carrying out ideological subversion against sovereign states, even including allies of the United States.

/9274
CSO: 5500/1013

BRIEFS

TASS AGENCY IN URUGUAY--The official USSR news agency TASS will start operating in our country within 60 days. The news service will dispatch and receive news, directly linking Uruguay with the leading East European cities and also with other capitals in the Western Hemisphere where TASS operates. The official Soviet news agency will provide "First Hand Information" concerning main international events, from the Communist viewpoint. [Text] [Article entitled: "Does TASS...agree?" from the "First Hand Information" column] [Montevideo EL DIA in Spanish 9 May 86 p 4] /9274

TV IN FAR NORTH--The Franz Josef Land Archipelago now has a Moscow television installation, making it possible for the first time for central television programs to be reliably received there. This installation, one of the largest Arctic stations, is on (Kheye) Island. [Summary] [Moscow Domestic Service in Russian 0200 GMT 17 May 86 LD] /9274

CSO: 5500/1013

HELIOS PROJECT USING TELECOM I SATELLITE

Paris ZERO UN INFORMATIQUE in French 7 Apr 86 p 74

[Text] In Europe, particle physics research is coordinated by the ECNR. The main experimental sites are the ECNR accelerator in Geneva and the DESY accelerator in Hamburg. Research always takes the form of large-scale international cooperative "experiments," involving some 100 physicists and as many engineers and technicians over a 5 to 10-year period. Up to 1,500 gigabytes of data may be collected per year for a single experiment--the equivalent of approximately 10,000 magnetic tapes! Processing is distributed among the computing centers at the national laboratories (such as the AEC elementary particle physics department in Saclay), where the data are dispatched using conventional transmission methods. For most data, this approach is satisfactory. However, a small percentage needs to be processed within a few hours. Until now, solutions to this problem have been either prohibitively expensive or only experimental.

By late 1982, the AEC laboratory had become convinced of the advantage of using the Telecom I satellite to establish a high-speed link between Saclay and the ECNR. The preliminary study, concluded in 1985 was conducted in cooperation with the Nadir project. During the course of this study, other European laboratories expressed an interest in the project. Christened Helios, it evolved into a true satellite file transfer network.

Today, Helios is the joint concern of the AEC, as project coordinator; Cisi Telematique, as overseer; and the Universite Libre de Bruxelles (ULB/VUB). It also receives support from the DGT [General Directorate of Telecommunications] and France Cables et Radio. Priority will be given to marketing all Helios system components, the first of which should be available by summer 1986. The fact is that the project goes beyond the needs of the scientific community and addresses those of all users transmitting large volumes of data, i.e., from 1 to 200 million bytes.

Such transfers are difficult, if not impossible, using conventional transmission methods. With Transdyn service satellite links operating at speeds of from 48 Kbps to 1,920 Kbps, these transmissions can be completed in a matter of minutes.

Helios is designed to transmit data between various makes of computers, between various local networks, and even just between magnetic tapes. The problem is not an easy one, since the different laboratories use different network architectures, all of which are more or less at variance with OSI architecture and none of which are equivalent. These architectures are not interlinked, but some applications can run as well on one architecture as another. Similarly, the computers involved constitute a very heterogeneous group: Cray with Cray X-MP under COS; Bull with DPS 7 under GCOS 7, DPS 6 under GCOS 400, and SPS 9 and SPS 7 under UNIX; IBM 370 under VMS and VM; CDC with CYBER under NOS, DEC with VAX under VMS, etc.

Gateways To Be Used To Link Heterogeneous Equipment

Consequently, Helios must be easily adaptable to each user's specific needs. It comes either as a set of components that can be assembled to form a satellite data transfer network, or as a network with installed turnkey services. Thus, Helios will make it possible for big scientific laboratories that wish to transfer very large files to achieve transfer speeds on the order of a million bits per second, with sophisticated interconnections to powerful computers (such as IBM 3090's and the Crays) as well as to local networks (such as NSC's Hyperchannel).

Other less demanding users will be able to settle for a transfer speed of around 100 Kbps and a simplified Helios link. In some cases, the system will only need to write directly to magnetic tape, a use under consideration by the CNES [National Center for Space Studies] for between Toulouse and Lanion. Lastly, for data bank lookup, especially in the CAD/CAM area, a simplified version of Helios might prove a technically and economically attractive approach.

Profiting from their experience with the implementation of a satellite link between the Saclay and Cadarache centers, Cisi Telematique has developed a general Helios network configuration composed of ground and satellite links together with "access points" in each laboratory. Each laboratory's computers or local networks will be connected at an access point, which will serve as a gateway between the existing hardware and the transmission links, making it possible to exchange files with any laboratory having the same type of access point. The advantage of this solution, based on the use of a Bull SPS 7, is that it simplifies the linkup of existing equipment and leaves the way open for possible future upgrades adapted to other transmission media.

The first Helios-supported satellite links will be Telecom I (Transdyn service) bidirectional or unidirectional mode point-to-point links permitting speeds of from 64 Kbps to 2 Mbps. X.25 mode ground links will be used for the return path in unidirectional mode. Satellite linkup will be possible either on a per-call or reservation basis.

In addition to the access points, file transfer software will have to be installed on the computers. This software, designed in accordance with ISO FTAM models for layers 6 and 7, will be based on the architecture of each local network for layers 1 through 5. This file transferer will handle user requests and provide reports.

From the outset, Helios project participants as a whole have been determined to make Helios a production system. Today, this determination is apparent in two respects. First, users are offered easy-access operational support. Secondly, an effort has been made to ensure that all new designs lead to products in manufacturer catalogs. A few cases in point are the SPS 7-Hyperchannel interface, marketed by Cybersys and Bull, and the SPS 7-to-SPS 7 satellite tape transfer software, marketed by Cisi Telematique as a multivendor generalized file transfer package.

13014/9738
CSO: 5500/2661

FRANCE

CULTURE MINISTER DISCUSSES TV PRIVATIZATION

LD291423 Paris Television Service in French 1838 GMT 28 May 86

[Interview with Minister of Culture Francos Leotard on "Hour ofTruth," program moderated by Francois-Henri de Virieu; with correspondent Alain Duhamel; Francoise Giroud, head writer for *LE NOUVEL OBSERVATEUR*; former Minister Albert du Roy; correspondent Jean-Louis Lescene of SVP, audience research unit — live or recorded]

[Excerpts] [De Virieu] Good evening. Rarely has a politician found himself in a situation similar to that of the minister of culture and communication this evening. Mr Leotard, we have at least three good reasons for wanting to hear from you. First, you are behind a draft reform of broadcasting which, as you know, is arousing anxiety and polemics. You will tell us why you want to do what no government of the world has ever done before you -- that is, to sell public television to private shareholders. And you will tell us how you intend to do it. Do you intend to go about it in your own way or in Mr Balladur's [economy minister] way?

I shall now hand you over for questioning to Alain Duhamel, Francoise Giroud, head writer for *LE NOUVEL OBSERVATEUR* and former minister, Albert du Roy and Jean-Louis Lescene.

[Giroud] What I fear in the field of competition, and once again I have traveled quite a lot, perhaps less than you, but I have seen a good deal of commercial television channels — and it must be said that their level is absolutely alarming. [words indistinct]

[Leotard] We want to impose a certain number of conditions on those who will be allotted this television channel [TF-1]. These conditions will put them in competition with others, that is, the procedure itself will make the principle of the best cultural performer the element which will pick out one or another among those who want to be candidate. This is the first remark.

The second remark is that when I hear you say, and you say it in a rather simple way, they — we — are selling off, or getting rid of.

[Giroud] I did not say you were selling off, no.

[Leotard] I simply want to make you aware of this simple idea which we decided on this very day — thus I am announcing it here on Antenne-2, since I have the opportunity to do so. The formula which has been decided on for the privatization of TF-1, which I remind you is one article in a bill of 80 articles, but that is a minor point. Let us talk about it, since it concerns people. The formula is the following: 50 percent for the operator, 40 percent for the public. That means it is a de facto renationalization, if I may use the phrase — that is, we are giving back to citizens what was confiscated from them by the state, meaning 40 percent, and 10 percent for employees of the channel who want to buy.

[Unidentified correspondent] What is important is not the promises that are made, but the sanctions in the event that they are not kept.

[Leotard] You have given me an opportunity to explain the bill more. The commission in question, which we have called the National Commission for Communication and Freedoms, will be much more independent, have a much more public, much more of a specific, mandate than the Higher Authority [present broadcasting authority]. I could talk about this for hours, but I have little time now. But it will have the power to withdraw the allocation if the specifications for the channel are not adhered to. This is not the case for the Higher Broadcasting Authority.. It will be able to do this because it will have available part of the services of TDF [Television of France]. This is a fundamental change in French law, because at present while the Higher Broadcasting Authority can sigh endlessly, it has no power to act against those who flout its commendations. This will no longer be the case with the new law.

[Lescene] Mr Leotard here are some very concrete questions: Can you confirm whether the television license fee will or will not be lowered since TF-1 is going private? Can you confirm whether or not there will be no more advertising on Antenne-2? [words indistinct]

[Leotard] I will add a third question. Yes, the license fee will be lowered. No, there will be no immediate abolition of advertising on Antenne-2. I add a third yes. It's very clear: Yes, the duty on video recorders has been abolished. I say this because it is good news and I am very proud to be one of the first ministers to achieve a drop in taxes in France. [words indistinct]

[Lescene] How can you guarantee that the members of the new radio and television commission will be appointed in a more just way than in the last one?

[Leotard] [words indistinct] At the moment the members of the High Broadcasting Authority are appointed by political authorities for whom I have great respect. But they are political figures — Mr Mermaz, Mr Mitterrand, and Mr Pher. The system we are going to set up, which will be submitted to Parliament is as follows: Three people from the main state legal bodies — the Council of State, the Court of Audit and the Supreme Court of Appeal; three people, based on the model of the High Authority [as heard]. These six people will coopt three other persons chosen for their ability in the field of broadcasting — I am thinking in particular of telecommunications or the press. These nine people will elect their chairman. This is the fact of the matter. It is a commission which will have much more power than the former high authority — a lot more. In particular it will have the means: part of the services of TDF. We in France will be in a position in which we will have an authority, this National Commission for Communications and Freedoms, which is truly independent. May I remind you that it will be able to withdraw franchises which have been given. It will watch over frequencies — freedom to broadcast, but also freedom to hear, which is not the case today with what is going on on the FM band. Of course, it will report to the government on what is happening and will make its observations. It will watch over pluralism, it will have a wide responsibility and it will have duties in the field of the cable network, satellites, and telecommunications within a year.

[Du Roy] Let us suppose that the operators who acquire TF-1 do not respect the tender specifications, what will happen?

[Leotard] Their franchise can be withdrawn. There is a procedure for this.

/9274
CSO: 5500/2682

CSELT, CONTRAVES UNDERTAKE JOINT PROJECT

Turin MEDIA DUEMILA in Italian No 3, Mar 86 pp 7-15

[Article by Basilio Catania: "Ade: The Elastic Deployment Antenna"; published in CSELT [Telecommunications Research and Study Center] Supplement to March 1986 issue of MEDIA DUEMILA]

[Excerpts]

The Contribution of CSELT to the Design of the New Satellite Generation

ESA and CSELT have played a pioneering part in this direction, starting with the research in 1976 for the project involving a system with regeneration and onboard switching. This was followed by over 20 ESA contracts for CSELT for the antennas considered in this article, for the differential board demodulator which employed advanced technologies and reached very good electrical performances with unprecedented stability and dimensions, and, finally, for the onboard switching which involved the development of an unprecedented very high (200 Mbit/sec) switching matrix.

This research by CSELT has strengthened the role of the IRI-STET group in the field of satellite communications, where the presence of "Consociate Selenia Spazio e Telespazio" is particularly well established.

As a very encouraging result of this research, the satellite can now become an essential (and economically valid) element of both the interactive and broadcast national or regional (that is, European) telecommunications networks. This satellite, therefore, can be called a "domestic satellite."

Obviously, it will continue playing its part in intercontinental communications more economically than in the past, linking great land stations like the ones located on both shores of the Atlantic Ocean. About 50 percent of the traffic will continue being routed through it as in the past, while the remaining 50 percent is carried by submarine cables, particularly the newest optic fiber cable TAT8 which will go into operation in 1988.

Thus, satellites and optic fibers once again go hand-in-hand. In the specific field of antennas CSELT has long planning and operating experience with prototypes with advanced characteristics, including the antennas for Intelsat V (in cooperation with Selenia); the antennas for the universe background radiation measurement which are now operating in White Mountain, Arizona under the control of University of California at Berkeley; the 11-14 GHz ground antenna for the European community (Azione COST 25/2); a considerable amount of "wrinkled" illuminators, including those for the SIRIO satellite; the double range (7-11 GHz) and double polarization antenna for earth radio relay systems which set a record in this field.

More recently CSELT has tackled the very modern subject of frequency selective surfaces ("dichroic surfaces") which will allow potentially multirange antennas to be developed with further reductions in size, weight and costs. In this sector CSELT is at present the leading point in the international state of the art.

The Elastic Deployment Antenna

Since the number of "spots" and ground stations involved in the "domestic" satellite can be very high (in the most extreme case an antenna for each user), it is clear that cost and dimensions of ground stations must be drastically reduced, and first of all, that of antennas themselves. Thus, the use of antennas as large as possible on the satellite is essential. It is also advisable for antennas to have many beams (multiple-beam antennas) and for their tracking to be guided by a suitable program, allowing each beam to "jump" quickly from one spot to another according to traffic requirements or needs ("scanning beam").

This solution also is of much interest in the case of the intercontinental satellite since it would allow several small stations with modest traffic, as well as existing large earth stations, to be served both on land and by mobile means (e.g. ships) as long as they are not too small.

Together with the greater diameter of the on-board antennas (and therefore the narrower beam width) it is essential to assure more precisely than in the past the satellite position in orbit ("station keeping") as well as the antenna beams "fine" control of the antenna tracking.

In order to acquire new ideas on antennas characterized by great range and lightness but with minimal dimensions before deployment into orbit, ESA has turned toward some European companies. In particular, ESA has assigned a contract to Contraves of Zurich (first contracting party) and CSELT. In this contract Contraves has developed suitable mechanical technologies and CSELT has carried out the electromagnetic project and the corresponding antenna measures.

The solution chosen by Contraves is a special inflatable structure which is similar, in theory, to self-inflatable lifeboats, and aims at assuring both elasticity in inflation and stiffness and strength in operating attitude. The latter characteristics are essential, first of all, to guarantee suitable accuracy and constancy of the radiation pattern (in particular: keeping the tracking direction, the form and width of the main beam as well as reduced occurrence of side irradiations, that is, of the "secondary lobes"); and second, to resist mechanical stresses (including micrometeorite shocks) and temperature ranges due to insolation, which are much more severe than those which earth antennas are exposed to.

On the other hand, any micrometeorite holes would cause no damage since the gas used for the antenna deployment, after performing its task in a couple of hours, is slowly discharged from the antenna which will then firmly maintain the achieved position and form.

It is almost ironic that we are coming back (but only as to the theory of inflatable structure) to the "primate" (1960) of telecommunications satellites: The inflatable balloon, ECHO, which was 30 m in diameter communications with an external metallized surface.

The ADE antenna can be produced in different diameters, to a maximum of 40 m and a maximum frequency of about 30 GHz. The first operating model will consist of a 12 m reflector, probably equipped with 5 illuminators. The reflector will weigh 15 kg, 5 to 10 times less than a reflector built with existing mechanical technologies (carbon fibers). Its volume, before deployment, is about 1/20 of the final volume. It will be embodied into a lens structure, which has the advantage of assuring greater system stability because of its symmetry.

The deployment mechanism is simple and safe and does not require any special mechanical device.

Finally, despite the superiority of the aforementioned performance, the manufacturing cost of the entire antenna will be lower than that of equivalent structures operating now.

In order to obtain results, CSELT and Contraves have worked side by side to continuously refine the performance, overcoming bit by bit any obstacles met.

One of the greatest difficulties has been the search for and the identification of an electromagnetic pattern capable of drawing with sufficient precision the irradiating surface in order to allow a suitably approximated evaluation of the effects of the unavoidable deviations from the parabolic profile, which are of a unique kind as a result of the entirely new techniques used for the elastic deployment and the subsequent stiffening. Among other things, these deviations directly affect the width of the "side lobes," which must be kept very small in order to avoid any interference in the geographic areas adjacent to the target areas. This difficult problem has been solved by CSELT researchers, as is provided by the almost perfect coincidence of the measured values with those provided by processing the pattern obtained through computer simulations. On top of this comes the obvious advantage deriving from the determination of program parameters and, particularly, the specification limits of acceptable building faults.

Radio frequency measurements, which require high precision and reliability, have been carried out according to CSELT specifications and have required the planning and use of an illuminator with extremely pure radiating characteristics which are controlled with high precision as well as mechanical structure, even in the presence of mechanical stresses caused by wind and temperature ranges during the measurements.

The first satellite employing an ADE antenna will probably be the QUASAT satellite for astronomical observation (also called "deep space"), for which CSELT has under way a very advanced investigation for the construction of a special multifrequency illuminator to be used together with the ADE reflector.

ESA Contracts Alloted To CSELT

1. Onboard message switching and signal processing. No 2872/76
2. Study on numerical solution of the FOKKER-PLANK equation. No 2966/76
3. Study of a 4 phase PSK differentially coherent onboard demodulator. No 3643/78
4. Advanced TDMA systems using onboard signal processing. No 3657/78
5. Technical assistance for the suitability of vocoders for satellite communications with low G/T mobile terminals. No 4178/79
6. Image sensor signal processing onboard scientific satellites. No 4506/80
7. Study of propagation properties of 50/70 GHz band and its potential applications for space communications systems. No 4535/80
8. Traffic routing in a switched regenerative satellite. No 4626/81
9. Preliminary assessment of a 120 Mbit/s 4-phase differential demodulator. No 4762/81
10. Vocoder quality assessment. No 4785/81
11. Frequency selective surface design capability program. No 4828/81
12. Study, design and development of a laboratory SS/TDMA system. No 4924/81
13. Study of dichroic subreflectors for multifrequency antennae. No 5355/83
14. Design and development of a laboratory SS/TDMA payload. No 54/51/83

15. Time plan efficiency evaluation. No 5469/83

16. ISRS [Inflatable Space Rigidized Structure]. No 5505/1 RR765/CSELT

17. Filter design and testing. No 5744/83

18. Study of dichroic subreflectors for multifrequency antennas. No 6058/84

19. Definition, design, development and testing of a medium rate speech coding simulator for mobile satellite systems. No 6098/84

20. Study for the improvement of the TST/SS-TDMA system.

21. Study for the multifrequency feed for a satellite based radio telescope antenna.
No 6242/85

*The contract number is followed, after the bar by the assignment year.

8604/9190
CSO: 3698/M097

ITALY

BRIEFS

TELETTRA BALANCE SHEET--Telettra's 1985 balance sheet has been released, and the good state of the business is evident. In fact, consolidated sales were 475 billion lire (412 in 1984); investments were 31 billion lire (23 in 1984); and the number of employees increased from 4764 in 1984 to 4836 in 1985. Total proceeds have therefore jumped 15.3 percent, 52 percent in Italy, and 48 percent abroad. Also during this year, premises were set to strengthen the presence on the North American market with the acquisition of interests in important U.S. companies such as Cignet, LCI Communications, and GTE were made. [Text] [Turin MEDIA DUEMILA in Italian Mar 86 p 133] 8603/9869

TELETTRA, SOLARI & C. UDINE SpA NETWORKS--Telettra (Fiat Group) and Solari & C. Udine SpA (Pirelli Group) have drawn up an exclusive agreement for the technical and commercial promotion on the Italian market of the David 8000 system. This system gives all business users, who already have private automatic exchanges at their disposal, a service that enriches the quality of the performance even if it is not of very recent technology. In other words, it allows the realization of a sophisticated local network which is able to control, in an integrated way, all communication problems inside an organization. In fact, with the David 8000 system it is possible to use the same physical storage (single telephone duplex cable) for telephone and terminal networks, PC networks, and local networks, thereby eliminating the limitations and broadening the performances of the existing physical network. [Text] [Turin MEDIA DUEMILA in Italian Mar 86 p 133] 8603/9869

CSO: 5500/M113

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